

REPRINTED FROM

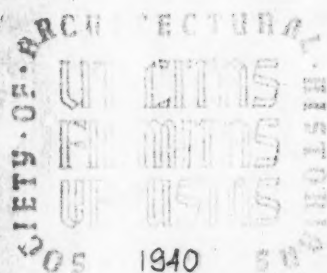
*Journal*

*of*

THE SOCIETY

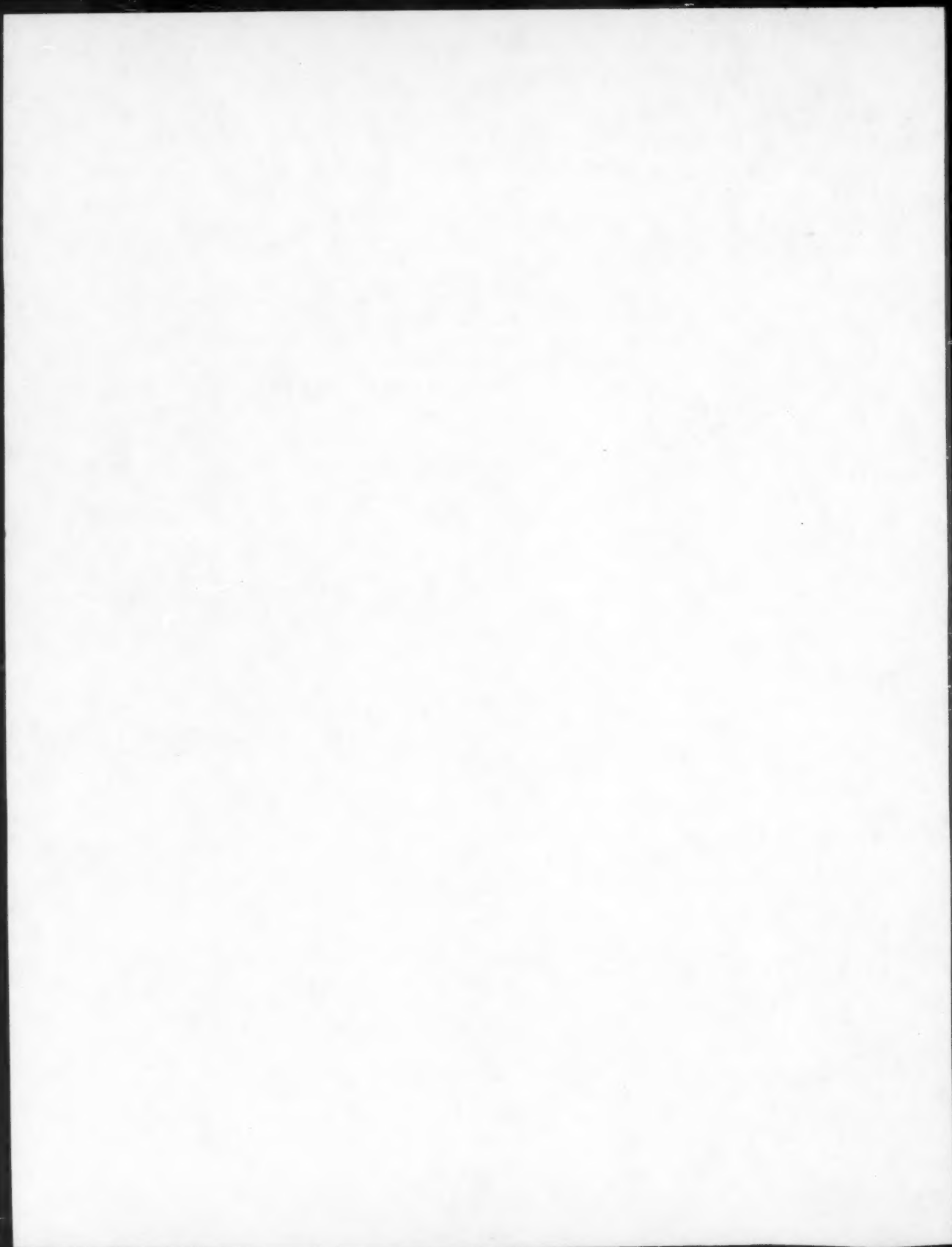
OF ARCHITECTURAL

HISTORIANS



May 1957

Volume XVI • Number 2



MAY 1957 • Volume XVI, No. 2

# *Journal of* THE SOCIETY OF ARCHITECTURAL HISTORIANS

*Editor:* J. D. FORBES, University of Virginia

*Editorial Assistant:* GEORGE W. WILLIAMS, University of Virginia

*Editor American Notes:* CHARLES E. PETERSON, National Park Service

*Editor Book Reviews:* PAUL F. NORTON, The Pennsylvania State University

*Editorial Advisory Board:* TURFIN C. BANNISTER, University of Florida;

WALTER L. CREESE, University of Louisville; ALAN K. LAING, University of Illinois

## CONTENTS

2. Feet and Dates at Charlieu  
*Elizabeth R. Sunderland*
6. National Elements in Russian Architecture  
*Arthur Voyce*
17. Some Virginian House Plans Reconsidered  
*Marcus Whiffen*
20. Special Supplement to American Notes: The Girard College  
Architectural Competition, 1832  
    Introduction  
    *Charles E. Peterson*  
    The Drawings Recovered  
    *E. Newbold Cooper*  
    Girard College: An Example of the Layman's Influence  
    on Architecture  
    *Agnes Addison Gilchrist*  
    A Note on the Drawings  
    *Agnes Addison Gilchrist*
27. American Notes (continued)  
    *John F. Fitchen III*
28. Books
32. SAH News

*The JOURNAL of the Society of Architectural Historians is published in March, May, October and December.*

*Manuscripts, news and notes are welcome and should be sent to the Editor of the SAH JOURNAL, University of Virginia Graduate School of Business Administration, Charlottesville, Virginia.*

*Printed in Crawfordsville, Indiana,*

*by R. R. Donnelley & Sons Company, The Lakeside Press.*

*The JOURNAL is listed in the Art Index.*

# FEET AND DATES AT CHARLIEU

ELIZABETH R. SUNDERLAND

THE EXISTING foundations and buildings of the former monastery at Charlieu in ancient Burgundy present a complicated mixture of structures built and remodelled at different periods. Dates have been assigned to various parts on a rather fragile basis of documentary and stylistic evidence (Fig. 1).<sup>1</sup>

The ninth-century church has been dated c. 872 A.D. because that is the foundation date of the monastery and because its architectural and masonry style is a direct importation from the lower Loire valley near Tours. Refugees (some are known to have fled to Burgundy) from the raid of the Normans in 872 A.D. could have been responsible for the structure.

The tenth-century rebuilding (Fig. 3) of the ninth-century church, which stripped away the original round buttresses and added rectangular buttresses, nave piers and probably vaulting, has been assigned to the period of 932-942 A.D. on the basis of the fact that Cluny took over the monastery in 932 A.D., and on the basis of the probability that the east end was rebuilt with an open ambulatory. St. Odo, who was abbot of Cluny (927-942 A.D.) when Charlieu was taken over, came from Tours where an ambulatory was possibly constructed about 920 A.D. and could, therefore, have thought of building an ambulatory at Charlieu. After the second church of Cluny was begun c. 954 A.D. all Cluniac churches of the tenth and early eleventh centuries either imitated its plan with apses in echelon or built simpler but non-ambulatory types.

Some of the monastery buildings at Charlieu have been assigned to the tenth century on the basis of masonry style, window and door types, and the alignment of some of the buildings with the axis of the original church.

The eleventh-century church has been thought to have been started during the abbacy of Saint Odilo (abbot of Cluny 994-1049 A.D.) because a reference in his biography (by Jotsaldus c. 1050 A.D.) seems to say that he entirely rebuilt Charlieu. Many archaeologists have argued, however, on the basis of the style of the existing parts of the building (only the western-most bay still stands) and on the basis of the consecration date of 1094 A.D. that Saint Hugh (abbot of Cluny from 1019 A.D. to 1109 A.D.) built the whole church.

ELIZABETH R. SUNDERLAND has had a street named after her by the town of Charlieu in recognition of her archaeological researches on the abbey.

Further data would obviously be welcome on all the above mentioned structures. As often happens in archaeological studies new information came from an unexpected source, in this case from a study undertaken to find the length of "foot" used in the various buildings. Since the results carry implications beyond the practical one of restoration drawings, it seems worth while to present them in some detail.

The ninth-century church employed a Roman foot of 29.61 centimeters.<sup>2</sup> The building was laid out in the Carolingian fashion on a linear diagram from wall center to wall center with the measurements of the length of the church starting from the center of the semi-circle of the apse (Fig. 2).

The tenth-century rebuilding of the ninth-century church used a long foot of 32 centimeters and the measurements were made in terms of interior dimensions, not wall centers (Fig. 3). The smaller piers inside the church were 3 by 5 feet and the big crossing piers 8 feet long. Four feet marked the distance between the centers of the columns on the inside of the semi-circle of the ambulatory. (This distance of 4 feet, in the 32 centimeter foot, is still observable between the centers of the paired columns of the chapter-house arcade at Charlieu. The arcade is the old ambulatory colonnade put to a new use.)

The tenth-century monastic buildings were measured (Fig. 3), not in the 32-centimeter foot, but in a Carolingian foot of 34 centimeters, and they were laid out from wall center to wall center with the exception of the chapel. The cloister, the refectory, and the buildings which once existed to the west of the cloister were built with the same orientation as the tenth-century church, and thus, probably, were constructed at one time. In addition to the dimensions to be seen on the plan (Fig. 3) can be mentioned the measurements (also in 34-centimeter feet) of three ancient doors with horseshoe arches, in the south and west walls of the cloister. Two, in the south wall, were 5 feet wide on the cloister side and 4½ feet wide on the other side. In the west wall of the cloister is another door, 6 feet wide on the cloister side.

The block of the chapter-house, parlor and cellar, which had the tenth-century dormitory on the second level, is not oriented with the buildings to the south and west of the cloister, and therefore probably does not date from the same period in the tenth century. The measurements, how-



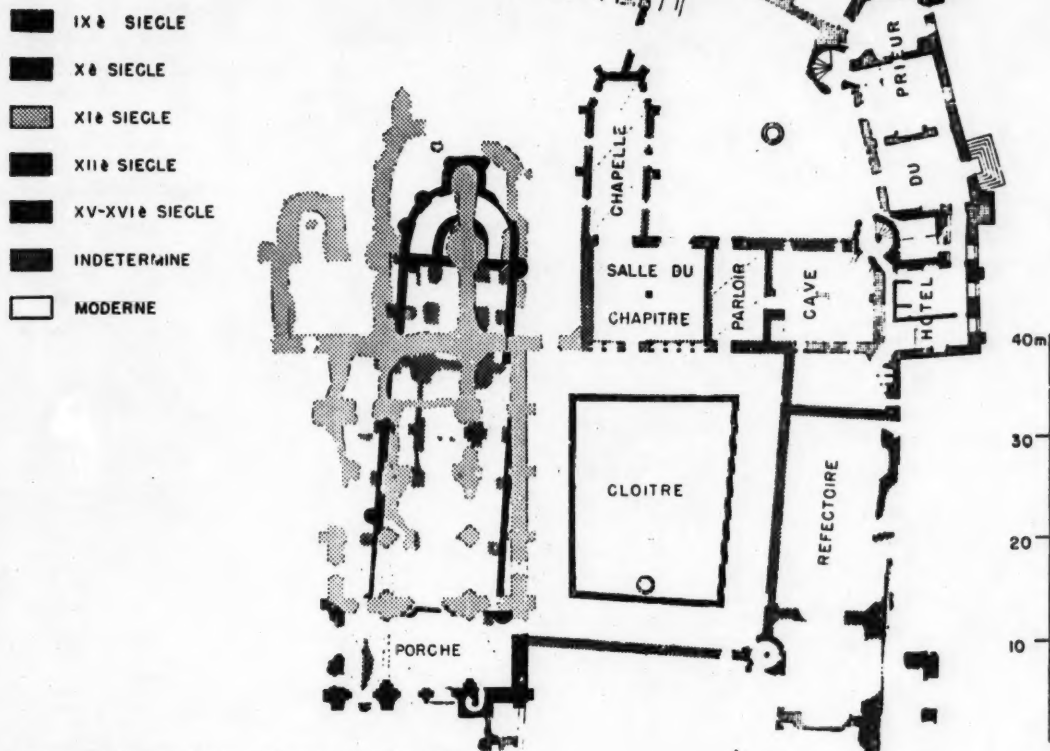


Fig. 1. Charlieu. Partial plan of the ruins. (Author 1953)

ever, were made in the 34-centimeter foot (Fig. 3). So few dimensions are available in terms of ground plan that there might be doubt as to whether the 34-centimeter foot really had been used here if it were not for the existence of a series of second-story dormitory windows on the east side of the block. The windows measure exactly 2 feet wide by 4 feet high in the 34-centimeter foot. In addition the distance between the bottom of the cellar slits and windows of the ground level and the bottom of the openings of the second level is exactly 10 of the same feet.

The chapel to the east of the chapter-house (Figs. 1 and 3) was also laid out in the 34-centimeter foot, but here occurs a change of system—interior measurements are used, not wall centers. Perhaps this means that the structure is later than the other tenth-century monastery buildings, something which also seems indicated by the more sophisticated masonry of the walls.

And now we come to the eleventh-century church. Its dimensions are in 34-centimeter feet and, like the chapel, are interior ones. The standing portions show a nave 70 feet long and 20 feet wide flanked by 10-foot aisles.

Finally, there is a two-story porch (Fig. 1) which was

built in front of the façade of the eleventh-century church. It is usually dated in the twelfth century on the basis of the style of the sculpture decoration of the north façade. Its width is fixed by the eleventh-century church, as are the distances between the engaged columns of its west wall. Its depth in the central bay is exactly 21 feet (interior measurements), but in a short Roman foot of 29.5 centimeters. The stair tower is 11 feet wide on the exterior, the stair treads are 2½ feet wide, the spine of the stair is 2 feet thick, the south wall is 5 feet thick, the west and north walls are 4½ feet thick. These dimensions are all in the new measure of a 29.5-centimeter foot.

Among the buildings at Charlieu, then, some four different lengths of foot have been used: a 29.61-centimeter foot in the ninth-century church, a 32-centimeter foot in the tenth-century church, a 34-centimeter foot in the tenth-century monastic buildings and in the eleventh-century church, and a 29.5-centimeter foot in the twelfth-century porch. What can all this mean? That the choice of foot was deliberate and not accidental, in the early middle ages at least, has been well shown by Richard Krautheimer in his discussion of Fulda and its relationship to Saint Peter's in

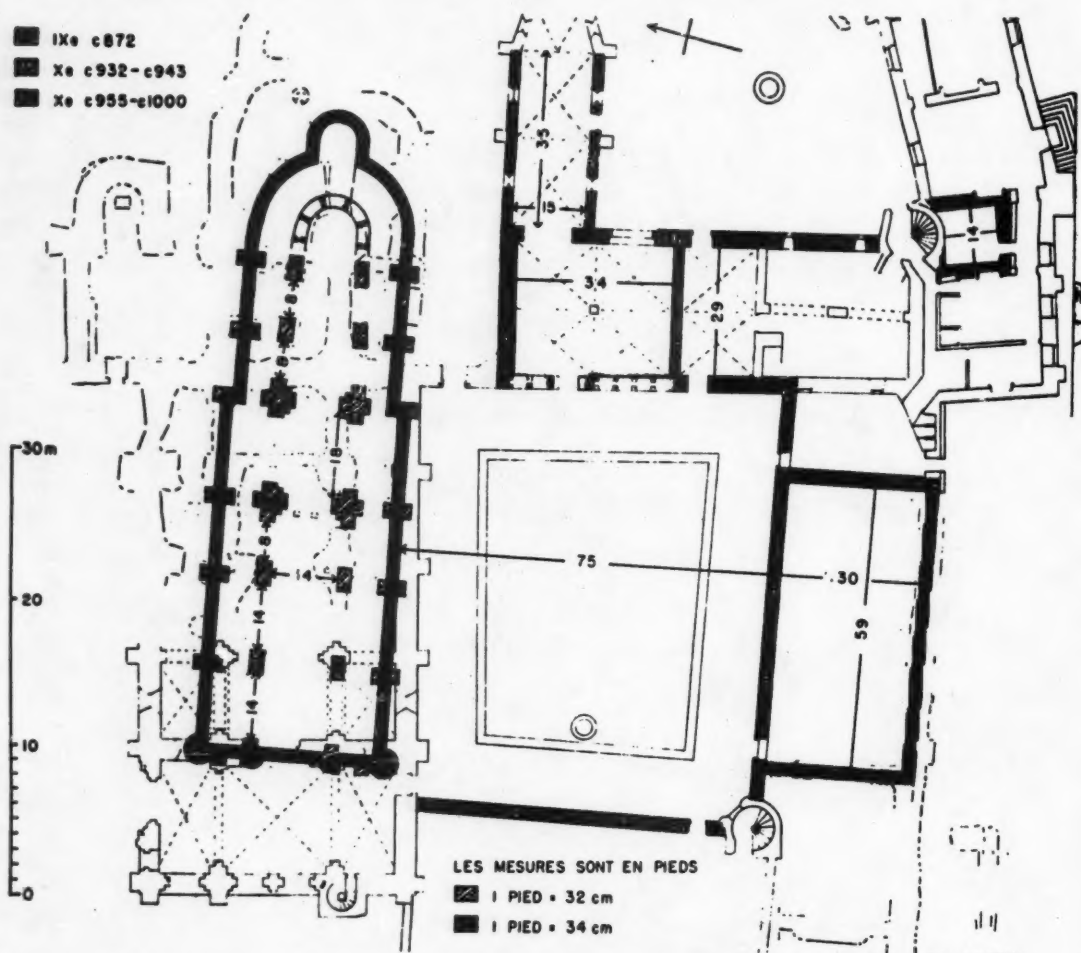
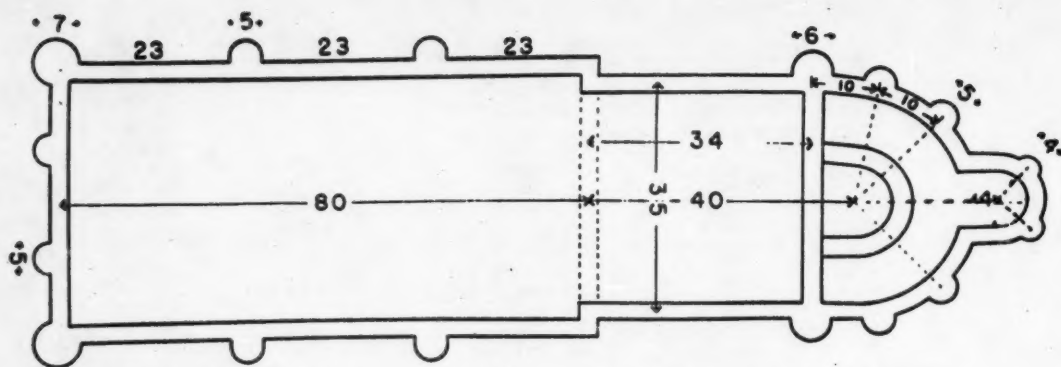


Fig. 3. Charlieu. Partial plan of the ruins with the plans of the 10th-century church and of the 10th-century refectory restored. The measurements of the 10th-century church are in 32-centimeter feet; the other measurements are in 34-centimeter feet. (Author 1956)

Rome, in the *Art Bulletin* of March, 1912, (p. 11, note 83).

In an article published in *Speculum* in January, 1954, K. J. Conant has shown that a 34-centimeter foot was used at Cluny from the time Cluny II was begun c. 954 A.D. to the completion of the monastic buildings under Saint Odilo in 1043 A.D. He has also shown in the same article that the great third church at Cluny, begun in 1088 A.D. by Saint Hugh, was built in a 29.5-centimeter foot. He has recently most generously checked over for the author all the other buildings, of which he has any evidence, constructed by Saint Hugh at Cluny. They were all apparently done in a 29.5-centimeter foot. In addition he has considered the measurements of a little building, preceding Cluny II, which he excavated close by the apse of Cluny II, a structure which he thinks was the first infirmary and built by Saint Odo. It seems to have been laid out in a 32-centimeter foot.

The correspondence of feet and dates is so striking between the two sites that one is very tempted to believe that the length of foot used in both Charlieu and Cluny was set by the abbot of Cluny and that a change of abbot could mean a change in foot. This idea gains credence if one wishes to believe the paragraph on measure which came out in the *Larousse XX Siècle*, published in 1931: "Dans les Etats barbares qui s'édifièrent après la chute de l'empire d'Occident, la métrologie reposa d'abord sur le système des mesures romaines, puis sur de nouvelles unités propres à chaque peuple. Charlemagne tenta, un des premiers, d'obtenir, par le capitulaire d'Aix-la-Chapelle, l'emploi par tous ses sujets de prototypes uniformes (789). Charles, le Chauve déclara dans l'édit de Pistes (864) que les mesures usuelles devaient être conformes aux modèles déposés dans son palais. Mais, durant la période féodale, le droit d'étalonnage appartient au seigneur, et, comme la taxe payée constituait un excellent revenu, chaque hobereau eut intérêt à posséder des unités particulières."

The ninth-century church uses a 29.61-centimeter foot which does not occur at Cluny. The building can then,

more surely than ever, be assigned to a date before Cluny took over the monastery in 932 A.D.

For reasons of plan the writer has thought that the tenth-century church was built by Saint Odo between 932 A.D. and 943 A.D. The fact that the same 32-centimeter foot occurs in a building preceding Cluny II at Cluny tends to confirm the idea that Odo was responsible for the tenth-century church at Charlieu. In any case, because the foot is different, the tenth-century church can with greater certainty be separated from the other tenth-century buildings, as far as time is concerned, and dated before 951.

The other tenth-century buildings at Charlieu are all done in the 34-centimeter foot which was used at Cluny from c. 954 A.D. to the death of Saint Odilo in 1019 A.D. These structures, then, can be considered to date from the second half of the tenth-century.

The fact that the eleventh-century church is also laid out in the 31-centimeter foot adds weight to the statement in Saint Odilo's biography that he was responsible for the construction. Saint Hugh seems to have changed the foot immediately at Cluny—but there, of course, he was constructing completely new buildings. No doubt he continued the use of the 31-centimeter foot in the church at Charlieu so as not to spoil a design already far advanced.

The twelfth-century porch, clearly planned from the beginning, and probably already under way at the time of the consecration of the church in 1094 A.D., is measured in Saint Hugh's 29.50-centimeter foot. This is the first structure at Charlieu where Saint Hugh would have been free to use his short Roman foot.

Variations in the length of "foot" would seem to offer new possibilities for dating. The question is, of course, whether the relationships between feet and dates at Charlieu and Cluny exist with other houses of the Cluniac order. There is some evidence in the affirmative at the present time.

DUKE UNIVERSITY

1. See Elizabeth R. Sunderland: "The History and Architecture of the Church of Saint Fortunatus at Charlieu in Burgundy," *Art Bulletin*, XXI (March 1939), 61-88; "The Daniel Relief and Cluniac Sculpture of the Tenth Century at Charlieu in Burgundy," *Speculum*, XXI, No. 1 (Jan. 1946), 18-22; "A Late Carolingian Church at Charlieu in Burgundy," *Journal of the Society of Architectural Historians*, IX, No. 4 (Dec. 1950), 39; "Charlieu: the First Ambulatory Colonnade?," *Journal of the Society of Architectural His-*

*torians*, XII, No. 1 (March 1953), 3-6; *Histoire monumentale de l'abbaye de Charlieu* (Charlieu, 1953).

2. The mediaeval foot varied from something over 29 centimeters in length to 34 centimeters. The short foot in the range of 29 centimeters is derived from the short Roman foot. The long foot of 33 to 34 centimeters is related to an old Germanic foot and is now often referred to as the Carolingian foot.

# NATIONAL ELEMENTS IN RUSSIAN ARCHITECTURE

ARTHUR VOYCE

CENTURIES AGO in her "wooden age" Russia originated and perfected certain basic forms and techniques which enabled her to develop an architecture distinguished by a quality of vertical continuity, picturesqueness of mass, and rich decoration. Those forms—the "tent"-shaped spires (*shatry*), the "barrel" (*bochka*) and "cube" (*kub*) roofs—have been echoed through the centuries by the pyramidal roofs, cupolas, and steeples on most Russian churches and public buildings.

Architectural decoration has often been singled out as Russia's most notable artistic achievement. The creative imagination of Russian designers through all ages produced a profusion of patterns based on a few fundamentally national themes which were remarkably vital and prolific.

From the eleventh to the sixteenth centuries the Kievan and Novgorodian Russias were artistically in many respects dependencies of Byzantine art. The St. Sophia cathedrals of Kiev (1037) and Novgorod (1015) were probably designed, built, and decorated with the help of Greek architects and artists. The standard scheme of the Byzantine church—the dome on pendentives—was the accepted type for orthodox churches. But we must not exaggerate either the importance or duration of Byzantine influence. On closer analysis, the two St. Sophias in Kiev and Novgorod show marked differences from their namesake in Constantinople,<sup>1</sup> and there is strong evidence that after the twelfth century Russian masonry architecture began to develop on independent lines. In trying to adapt the imported Byzantine forms to the local climatic conditions, the Russian architects transformed the flat half-spherical Byzantine dome, designed for the sunny lands of the Mediterranean, into a bulbous cupola better adapted to the heavy snowfalls and rains of the North. In the sixteenth century the bulb-shaped cupola was replaced by the tent-shaped roof which was even better adapted to the climate and landscape of Russia. By the middle of the seventeenth century the architectures of Byzantium and Russia had hardly anything in common. It suffices to

compare the great flat dome of St. Sophia with the multifarious and varicolored cupolas and "tents" of St. Basil, the lovely pyramid of the church at Kolomenskoe, the pagoda-like silhouette of the church at Fili, or the mass of rhythmically upsurging cupolas of the church at Kizhi, to become convinced that early Russian architecture became thoroughly emancipated from its model.

There were other powerful impulses from alien sources, notably, the influence of Romanesque architecture on the twelfth-century churches of Vladimir-Suzdal', and of the Italian Renaissance on the fifteenth-century Moscow Kremlin. The Russian architectural and ornamental vocabularies were enriched and new construction methods were introduced by the visiting Italians,<sup>2</sup> but the truly vital revolutionary movement that took place in Russian architecture of the sixteenth century was a resurgence of popular art expressing the ideas, tastes and building techniques of the common man. It is the wooden architecture of the north of Russia that affected the design of masonry architecture by transforming its proportions and decoration and even its structural methods. It was this revolutionary architecture which produced in Moscow the churches of D'jakovo, Kolomenskoe, Ostrovo, and St. Basil, with their wealth of ornamental forms that have found reflection in many of the decorative arts.

## *The Techniques and Forms of Wooden Architecture*

There is no whole wooden building of any importance remaining from either the pre-Christian era or from the period from the eleventh to the sixteenth century. Our esthetic appraisal must be to some extent conjectural and based on somewhat uncertain reconstruction. But judging from the monuments dating from the seventeenth to the nineteenth century, it is apparent that the builders of the Russian North employed their own structural methods and evolved many characteristic architectural forms so structurally sound, so logical, that their development may reasonably be assumed to be the work of centuries.

The structural development of Russian wood architecture is a fascinating story of the mutations and combinations of the various forms of blockwork: the rectangle and the polygon; the types of roof: the shed, the wedge

ARTHUR VOYCE is author of *Russian Architecture: Trends in Nationalism and Modernism* (1948) and *The Moscow Kremlin: Its History, Architecture, and Art Treasures* (1954).



(*klin*), the oggee barrel-vault (*bochka*) and the tent (*shatër*); and the storied belfries, the pinnacles and the cupolas. In the period of the rise of Moscow this influence was so marked that the history of Moscow architecture is to a great degree that of the translation and adaptation of wooden architectural forms to masonry structures.

Using the ax without the aid of the saw and without the use of metal nails, the ancient Russian builder erected very complex structures, often of great height, strength, and stability. According to the historians of Russian architecture F. Gornostaev and I. Grabar':

All the timbers and boards of the galleries and stairways were surfaced and finished only with the ax. All the jambs, heads and sills of the doors and windows, all the floor, ceiling and roof planks and boards were also only ax-finished.<sup>3</sup>

This very difficulty of preparing board lumber served as a discipline, preventing the craftsman from becoming petty or finicky in decoration, and trained him to think in large forms. Most often the decoration was done directly on the structural elements of the building, as on the jambs of the doors and windows, and on the columns of the gates and stairways.

Since all construction was of timber, the very nature of the material established certain practices and evolved definite building methods and forms. The timber was usually pine, not always seasoned, and generations of practice had taught that with such material the structure was best built by laying the logs horizontally, one on top of the other, so that in the process of drying and shrinking the weight of the logs transmitted downwards would prevent the formation of chinks and crevices.

The basic form in Russian wooden construction is the "blockwork" rectangular frame (*sруб*)<sup>4</sup> formed by round logs laid in ranges and interlocking at the corners. The logs are somewhat hollowed on the lower surface, to fit down over the ones below, and the interstices between them are filled with moss or oakum, thus making the walls proof against cold and moisture. Each range of logs forms, as the Russians call it, a crown (*vñec*) and the entire pile of crowns rising to the desired height, is called *sруб*. The frames thus assembled are very solid and do not need any nails. Exterior surfaces of the logs are left in the round; the interior surfaces are ax-hewed to smoothness, hewed so expertly as to seem sawed. The assembled box-like structure comprising floor, roof, doors and windows is called *klët*.<sup>5</sup>

These blockwork frames are square or oblong in plan. Their dimensions are limited to the length of the timbers. The rectangular *klët* was the unit of wood construction forming the principal element of the Russian peasant's house, the *izba*. It was covered by a shed or gabled roof and in olden times had no ceiling. This simple *izba* had an

importance in the development of Russian wooden architecture greater than some of the more pretentious edifices.

### The Izba

The *izba* is essentially a heated chamber, in its earliest and simplest forms lacking a chimney, the windows serving as an outlet for smoke. For protection against cold and dampness, door and window openings were reduced to a minimum. Living quarters of the well-to-do were on a second floor (*gornicy*)<sup>6</sup> built over a substructure called the *podklët*<sup>7</sup>; the substructure, or first floor, being reserved for the servants, livestock, and the storing of provisions. Large houses consisting of several units and two or three floors were called *khormy* (mansion) or *dvorec* (palace).

The simplest form of roof was the gable, but the Russian craftsman, with his flair for the picturesque, was quick to see possibilities for modifications and variations which evolved from the simple, low-pitch roof of the common hut to the wedge-like roofs, peaked gables, and oggee-shaped, pyramidal and multi-domed roofs of the great churches.

The pitch was governed by the gable pediments which could be built up and shaped to any desired angle and thus give the roof any slope or profile section. The carpenter, by shortening each successive layer of the logs in the gable wall, and shaping their ends to the desired angle, built up the gable triangle.

By flaring the walls outward, in a somewhat bell-shaped fashion, at the eaves level, the builder was able to provide a projecting shelf foundation for his steep roofs, thus breaking the main pitch of the roof and furnishing large eaves of gentle slope. By shaping the profiles of the gables at will, he was able to give the roof almost any desired form. Thus it was not long before he evolved the oggee-section roof, the so-called *bochka*.

The end of the ridge beam (*okhlupen'*) overhanging and crowning the front gable was usually carved, sometimes in the shape of a fantastic bird's head, the head of a goat or deer, or more often, the head of a horse. The opposite end of the ridge beam was shaped in the form of a tail. This type of figure decoration was applied to dwellings only; it is never found on church roofs or on barn roofs. The ornamented ridge beams and the carved forms of birds perched on long poles erected near the house were especially popular in the north regions—the province of Perm' and in the territory along the Onega River. Quite possibly they are left-overs of pagan symbolism derived from the "animal" style of Scythian-Sarmatian ornamentation.

Much ingenuity and skill was lavished on the decoration of the barge-boards and rakes, the "towel-and-tassel" board suspended from the ridge and masking the barge-board joints, the ends of the top-ridge-beam and the eave elements. In some parts of the provinces of Vologda and



Archangel the house-roofs are ogee-shaped. They look somewhat like the *bochka* roofs of the churches.

The window became the focus for rich decoration that often extended several feet on each side of it, sometimes over the entire height of the building. In brick buildings the window might be set into fancifully arched frames, the whole incrustated with colored tiles. The cottage or the *izba* window was also accentuated and often was treated in a delightfully gracious way. In this the Russian builders have persevered through the centuries with considerable success so that the most beautiful things in the village and small town cottages are the windows framed by masses of carved and painted ornament, relieving the severity of unadorned log walls. Even in the worst periods of borrowed sophisticated "city" ornament, when florid contortions of line and complexity of forms were in vogue, the windows still retained much charm.

Carved wooden chimneys are characteristic of many houses. They rise high as slender rectangular flues terminating in fancifully shaped tops crowned with zabled roofs, large projecting eaves and carved ridge-beams. The propensity for picturesqueness expressed itself in the design and decoration of these flues and in houses otherwise severe and simple one finds a touch of fantastic playfulness in the chimneys.

The stairway, as a functional and decorative element of the Russian *izba*, and especially of the more elaborate houses of the well-to-do, deserves attention. In Russia, of old, the role of the house exterior stairway was not limited to the merely practical function of getting up to or down from the upper floors of the house. The stairway and its landings served as a setting for the display of hospitality, manners and customs. This gave importance to the arrangement, construction and decoration of the stairway.

Church stairways are usually monumental and symmetrical. The flights are arranged either parallel or at right angles to the walls of the structure, and quite often are free standing, at a considerable distance from the walls, recalling the great formal stairways of the boyars' *khormy* or the tsars' palaces.

#### *Khoromy—The Ancient Russian Nobleman's Mansion*

It is difficult to visualize the domestic architecture and the home furnishings of the Russian nobility prior to the Petrine reforms. The only sources of information are descriptions and allusions in the chronicles of those days and the heroic poetry of ancient Russia (*Byliny*),<sup>8</sup> the few models, measured drawings, and paintings of the now-vanished wooden palace of the Stroganovs at Sol'vychevodsk and the tsar's palace at Kolomenskoe.

The basic elements of even the very sumptuous mansions were still the blockwork units (*klëti*) and their connecting vestibules (*seni*). Most of the units were two-storied—the lower story serving as a foundation for

the upper. Thus, the appellation *khormy* was, in a proper sense, attached only to the upper stories which contained the private apartments (*gornicy*) of the owner.

As in the yard of the peasant, so in the very extensive court of the nobleman, each blockwork unit was built separately and at some distance from the others, the space between the units depending on their functional relationship and the available ground. As a whole, the wooden *khormy* was nearly always an ensemble of units of a decorative and picturesque character, more or less flamboyant. Instead of the West-European single-unit mansion or palace, the Russian builder usually erected a group of interconnected structures, and although he evidently had little feeling for formal symmetry, he was endowed with a surpassing sense of unity and balance. At the same time he never suppressed his love of romantic composition, play of light and shade, and vivid colors.

Perhaps one of the best examples of ancient *khormy* architecture is the celebrated, but now vanished, tsar's palace—"the Russian Versailles"—at Kolomenskoe near Moscow (Fig. 1). The palace, set in gardens on a bluff overlooking the Moscow River, was in reality a small city complex consisting of 270 blockwork dwelling units of various shapes and sizes. It contained all the characteristic elements of the great mansions: the vestibules with their elaborately decorated stairways, passageways, arched balconies (*guf bishcha*), towers, and observation platforms (*smotriľny*). Here also were all the roof forms, the varied shapes of doors and windows, and the multifarious decorative entablatures developed throughout the centuries.

According to the extant detailed descriptions, the oak gates, the door and window pediments were beautifully carved and heavily gilded, as were the heraldic eagles over the apartments of the tsar and tsaritsa. The architraves of the doors and windows with their bright colors and gilt enlivened the otherwise smooth surfaces of the walls, blending with the sky-blue coloring of the shingle imbrications of the roofs over the banquet room unit and the towers of the tsar's and tsaritsa's apartments. The imbrications of the *bochki* over the covered stairways and those of the "tent" roofs were painted green. The roof ridges bristling with weather vanes and the golden chain-braced crosses over the cupolas of the palace church added still more color.

Much like the seventeenth-century Moscow Kremlin, the palace at Kolomenskoe was a product of national art. Its architectural forms reflect the imagery of the folk poetry and the fairy tales of the magic Fire-Bird (*Zar Ptica*).<sup>9</sup> Palace glittering with gold and bright colors. The roots of this architecture can be traced to the mythical age of pagan Russia, and its growth and perfection to the provinces of the North.

These elaborate ornate stairways, observation towers, communicating arcades and galleries influenced the de-

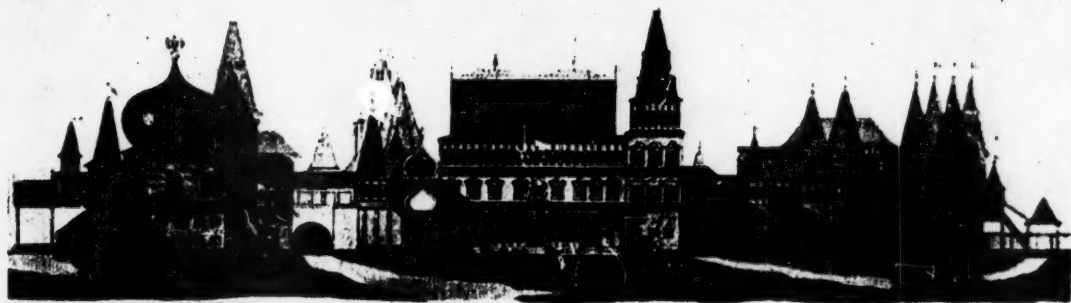


Fig. 1. Palace at Kolomenskoe. North elevation. (Solntsev del. *Drev. Ross. Gos.*, Pt. VI, Pl. 13)

sign of many structures, in masonry as well as in wood. A model of the palace served as reference source for the architects of the nineteenth century who tried to revive the architecture of Russian antiquity, and it is evident that the architects of the Historical Museum (V. Sherwood) and the Municipal Duma (M. Chichagov) in Moscow were inspired by it.

#### *The Wooden Churches of Northern Russia*

Long before Christianity became the official faith of Russia there existed Christian churches, and there is very little doubt as to the material of which they were constructed. It was mainly in the North that the forms of wood building were perfected and, as Gornostaev and Grabar' remark, "These forms became the inexhaustible source from which the arts of Russia, in their anemic periods, drew new blood; their significance has not been as yet fully appreciated."<sup>10</sup>

The construction methods and terminology were evolved early. The ancient word *khormy* was later applied to indicate the building of a *khram* or mansion, but in this case a dwelling of not just an ordinary mortal but a temple, a "house of God."

In the case of early masonry structures (the cathedrals of St. Sophia in Kiev, 1037, and in Novgorod, 1015-1052). Byzantine church architecture, with its well established forms of plan and elevations, was accepted as basic. But in the North the local builders had no examples which they could adopt or imitate. They had to draw either upon their own imagination or upon the traditional forms of domestic architecture, especially those of the large wooden mansions of the wealthy boyars. Even when masonry churches became more numerous, the very nature of the material precluded the adaption of masonry forms to wood structures. Certain general plan dispositions dictated by the special requirements of the Greek Orthodox church had to be followed, but even these were greatly modified and changed to suit the native building precepts, the topography and landscape. Thus was developed a folkish

understanding of what a "house of God" should look like, and how it should be built. These factors irresistibly directing the development of wooden church architecture away from alien traditions gradually brought about its liberation from Byzantium and influenced the modification of the once borrowed forms.

In this struggle between the native architectural idioms and the precepts of the upper clergy, the latter were able to hold to the general outline of the basic Byzantine church plan. The principal elements remained: the central space for the congregation, the sanctuary, and the narthex. But even these took on local characteristics. The narthex was replaced by the spacious refectory (*trapeznaja*), and transformed into the very vital house element, the vestibule of the *izba*. Together with their homey functional significance, these church elements also acquired the construction forms of the *izba*. Finally, as in the case of the large *izba* or the *khormy* of the boyars, the church was elevated one floor above the ground and erected upon a substructure (*podklët*). The church also inherited the more showy part of the *khormy*, the stairways with their covered landings (*runduki*). The structural frames of the church elements, in the form of blockwork rectangles very similar to those of the *izba* units, required the *izba* methods of construction, and the various heights and spans of the individual units necessitated separate roofs.

Though the church was built in the fashion of an elaborate nobleman's mansion, it was felt that it required a further distinction, which found expression in the addition of cupolas and crosses to the roof. The cupola was borrowed from the masonry church, but the method of wooden roof construction consigned it to the role of a purely decorative superstructure. The wooden cupola, though given the circular form of the masonry domes, was modeled along different lines. Its walls were flared outward, and its top was drawn upwards and thus molded somewhat in the shape of an onion-bulb (*lukovica*). Another feature of the masonry churches, the semicircular form of the parapet built directly over the extrados of the roof vaulting (the

*zakomara*), found its equivalent expression in wooden architecture. The possibility of using the parapet form to accentuate the masonry roof vaulting suggested itself to the Russian builder, ever alert for novelty of design. He became cognizant of its functional virtues as well as its decorative possibilities, and proceeded to adapt it to the wooden roof. The masonry *zakomara* became the progenitor of the ogee-shaped wooden roof, popularly known as the *bochka*, or barrel-vault shaped roof. Before long the barrel-vault was molded to the taste of the builder in wood. The original semicircular section became an ogee section; its outline was refashioned—the walls were pushed in at the base, flared out at the center, and drawn together and shaped into a sharp ridge line at the top. This became a favorite motif of the Russian builders who varied its profile, combined it with other motifs, and used it functionally and decoratively. The *bochka* roof was usually applied to the church sanctuary and the narthex. Occasionally it served as a base for the cupolas, and often it was used over the main landing of the stairway. The profile of the *bochka* roof—its front elevation—became known as the *kokoshnik*, a form which had acquired great popularity in the decorative arts, ecclesiastical and secular.

The church cupolas and cupola drums were covered with scale-like wooden shingles called *lemekh*. These shingles were made of aspen, cut into very thin, narrow pieces, the ends shaped in the form of a cross. Such a roof, seen against the gray northern forest, is suffused with a peculiar beauty, giving, in the shimmering light, the impression of being covered by some silvery substance. The roofs, whether painted or unpainted and weathered, wedge or ogee-shaped, tented or domed, are always the most original, spirited and fascinating part of the structure.

The load-carrying members—the columns which supported the ceilings of the refectories, church vestibules, or stairways—were decorated with carved braided bands interspersed with heavy melon-shaped forms that helped to underscore the subjection of the columns to the strains and stresses of the loads. In contrast, the colonnettes and small timbers, which carried the relatively light loads of the stairway and balcony elements, were made slimmer and of more delicate proportions and were decorated with high relief carving.

The carving which decorated these members in the early periods was austere because it had to be done with the ax, the chisel, and the knife. The appearance and the application of the saw, the brace and bit, and especially hand and fret-saws, opened up new possibilities in piercing and carving, and brought in a series of new ornamental motifs in the decoration of door and window architraves, gables, barge-boards, and rakes, at the same time enfeebling the character of ornamental design in relation to material.

Inside the church, color decoration was used extensively on the mullions and the moulded horizontal strips marking

the tiers of the iconostases, the royal doors, the icon niches (*kioty*), the columns in the church vestibule, and occasionally the ceiling beams. The purpose was to bring the decorative elements of the church into harmony with the painted icons, and to accentuate the ornamental values of the carvings which otherwise would be lost in the dim interior of the church.

On the exterior, color decoration was used where it could be protected from rain and snow. It was as a rule applied to the under side of the roof eaves, the upper parts of the walls, the deeply incised outlines of the carving on the door and window architraves, and the stairway columns.

The horizontal arrangement of the wall beams is an invariable characteristic. Timbers hewn from whole trees are laid in ranges, one on top of the other, to form the walls. Here is the mark of close kinship between church and *izba*, the indigenous contribution of the "primitive" builder. The well-articulated logs, the visual elements of the wall surface, are the units of scale which emphasize the hugeness of the structure. Because the upper elements were usually formed of smaller timbers than the lower, the tall blockwork frames of the church seem taller than they are. This impression of great height was further increased by the deft arrangement of the roof shingling where, in covering the pyramid-shaped spires, the plank-like shingles of each succeeding row were made shorter than those below them. A similar device was used for the interiors in the design of the iconostases and in the manipulation of the size and arrangement of the tiers.

The rectangular block units with their deep overhanging eaves, the units piled high in tiers one on top of the other; the roof-forms variously combined, ingeniously varied and crowned with a multitude of cupolas all around and about the dominant central body of the church and its smaller dependencies; the hanging arcaded galleries; the beggars' porches; and the stairways with their ogee or tented roofs—all provided a field for the display of imagination and an opportunity for spirited articulation and expressiveness of silhouette. These churches, the product of an original culture, were the mainspring of a great artistic movement and contributed much to the evolution of Russia's architecture of the sixteenth century.

#### *The Izba and Shatër Types of Churches*

The extraordinary variety of forms in the many old wooden churches still extant in northern Russia is indeed remarkable. In spite of seeming dissimilarities, one can perceive characteristics which suggest a division into two basic groups and, on closer observation, into further subdivision. The difference between the basic groups becomes especially clear if we turn from the complex specimens to the simple—from the large spectacular wooden cathedrals to the tiny and humble roadside chapels of the villages.





FIGS. 2, 3, 4. L. to r.: Old Chapel, Gapselga, Olonetsk Prov. (*Mir Isk.*, 1904, No. 11, p. 283); Church, Ust-Padenga, Shenkursk Dist., Archangel Prov. (*Ibid.*, p. 280); Church, Una, Archangel Prov. (Suslov del. *PDRZ*, I, Pl. 18)

The commonest type of chapel is a blockwork rectangular structure similar to the village peasant house—the *izba* with a simple porch in front (Fig. 2).

Churches of the rectangular tradition were evolved by the juxtaposition in a straight line of several units. The basic framework is a square or oblong box, and the most usual form of church has three units of which the central one—the largest and tallest—is the nave; the other two, added to the east and west ends, are respectively the sanctuary and a kind of vestibule or porch (*trapeznaja* or *privoz*) corresponding to the narthex of Byzantine and Romanesque churches. In this type, the central compartment was usually given a steep wedge-shaped roof, crowned by a small bulbous dome covered with shingles (Fig. 3).

No doubt the first Christian churches and chapels in Russia were of the primitive rectangular type. But at some remote period, one cannot state just when or how, a new form came into being, the octagon (*vos'merik*). This form apparently was used exclusively for religious purposes. Such a church, even if it lacked the crowning cross, would attract attention by its unusual form. Here the rows of logs are arranged to form a "circle," or rather its nearest equivalent, an octagon, and the entire blockwork unit is covered over by a roofing system that had never been applied to an *izba*—a roof having eight slopes, something akin to a tent (*shatër*).

The origin of this type of building was probably the nomadic tent. Starting from this form of structure, so simple in appearance, the Russian builder developed a number of spirited variations. The essential feature of the construction consists of building the main body of the church in the form of an octagonal tower. The roof for such a tower was invariably and quite logically an octag-

onal pyramid which was destined later to be translated into brick and stone. The great height of these tent-shaped roofs required, just as wedge-shaped gable roofs did, an easing of their sharp slopes at their bases—shelflike eaves of a more gentle pitch, eaves that would project several feet beyond the walls, shed the moisture, and protect the structure.

The *shatër* type of church, while keeping the three traditional parts—the sanctuary, nave and narthex—differed from the *izba* type in that its central element forms an octagon; being much taller, it was also distinguished by a quality of soaring verticality. The practical advantage of octagonal form is, of course, the larger floor space gained by timbers of the same length as those used to frame the rectangle. Moreover, it is stiffer structurally, offers greater resistance to wind stresses, and therefore can be carried to a considerable height.<sup>11</sup> The same is true of the tent-shaped roof which can withstand wind velocities much greater than the large areas of the steep gable roofs. But the most important advantage of the tented churches was inherent in the focusing or centering quality of the octagonal nucleus to whose principal axes could be added various projections giving the structure a cross-shaped form. Furthermore, it could be easily surrounded with many secondary elements—chapels, porches, galleries and stairways. The subsidiary ridged *bochka*-shaped roofs and decorative *kokoshniki* over the secondary elements gave the ensemble an unusually picturesque and expressive silhouette (Fig. 4).

As in churches of the rectangular plan, the floor is generally at some height above the ground. To meet the need for an approach to the church, a double stairway with balustrades and roof was almost always added to the

western end, and sometimes made the object of elaborate ornamentation, while the rest of the church remained plain. Often a covered gallery or balcony, a few feet above ground, runs around the western part of the church.

This type of church was the most striking creation of the Russians in the field of architecture. It is remarkable how rational, how carefully thought out is this deeply national form of a church. It was the favorite design probably because it satisfied a basic craving for verticality and vigorous silhouette. The "tent"-type church, though simple in its primitive form, led to greater things. Most of the "novel" stone forms of sixteenth-century ecclesiastical architecture seem to have been influenced by the tented wooden churches of North Russia. It is this particular form that the church authorities objected to so strenuously and tried to suppress. In the eyes of the upper ranks of the clergy, the "tent" roof did not express the essence of the church; it seemed to them too folkish, too playful, implying too great a self-assertion on the part of the individual builder. This attitude finally culminated in a church edict<sup>12</sup> issued in the middle of the seventeenth century prohibiting the construction of tent churches.

Each of the two basic groups of wooden churches, the *izba* and the tent, passed through several stages of development but they never lost their basic distinguishing characteristics.

#### *The Multi-Cupola and the "Cube" Types*

In addition to the two principal groups mentioned, there are the multi-cupola and the "cube"-types of churches which were brought about mainly by the edict prohibiting the building of "tent" churches.

These two subsidiary groups were developed largely because of the desire of the Russian builder to introduce some spirited element, something dramatic that would take the place of the forbidden tent. The first of these two groups was the multi-cupola church which appeared in the second half of the seventeenth century, at first in the form of nine cupolas, increasing in number to seventeen, as in the Church of the Intercession near Vytegra (1708), and culminating in the twenty-two-cupola Church of the Transfiguration at the Kizi Cemetery (*Pogost*) overlooking Lake Onega (Fig. 5).

This church was erected in 1714, and it is as nearly unique in the field of wood architecture as is the Church of St. Basil in the field of masonry. In plan it follows the traditional form of the "tent"-church: an octagon to which, on every other side, were added square projections, thus converting it into a cross. Instead of crowning it with the tent, the builder chose to break away from tradition, and superimposed octagon upon octagon in a series of receding steps, crowning each step with a *bochka*, drum, and bulbous cupola. The four flights of cupolas lead one's eye upward to the central topmost and twenty-second cupola,

whose supporting drum is planted directly on the roof of the octagon. On the western side is a huge double stairway with a common platform giving access to the narthex.

The result of this extraordinary combination of simple and complex elements is a fairy-like structure recreating the deeply rooted folk idea of a house of God, the multi-cupola church,<sup>13</sup> and at the same time preserving the favorite pyramidal silhouette. One may truly say that this is the work of a master builder endowed with an imagination of a high order, however fantastic it may seem.

The second group consists of the highly picturesque, so-called "cube"-shaped church—roof forms found extensively in the Onega region. The central square element in these churches is surmounted by a roof which has in vertical section (or in silhouette) the stylized form of a bulbous dome (Fig. 6). Its square plan, flared out sides, and its rather heavy mass must have earned for it the nickname of "kub" (cube-shaped or cube-form). This roof-form is probably derived from the combined and modified forms of the *bochka* and the cupola. It became a great favorite among the masses, as it was the nearest in its silhouette to the beloved but forbidden "tent." It was in reality a kind of a substitute for the "tent" and the *bochka*, a form at least sufficiently novel to be acceptable to the upper ranks of the clergy.

All these church forms were being built with occasional minor innovations up to the end of the eighteenth century. The innovations, if any, were but the reflection of those fleeting tastes and vogues that were popular in the bigger



FIG. 5. Church of the Transfiguration, Kizi Cemetery, Lake Onega. (Rzianin, *Pamiatniki*, Pl. 98)

cultural centers, in Moscow and St. Petersburg. Yet there is no escaping the fact that "progress"—in the form of better processed building lumber, smaller more refined sizes, and elaborateness of decorative forms—had begun to corrode and destroy one of the most significant, original and beautiful phases of national creativity. The older the monuments, the more apparent the creative power of their builders. These old enormous structures, built of huge



timbers, are suggestive of an age of giants. The work was largely anonymous, mostly the effort of cooperative, builder-guilds (*arteli*), sometimes of whole villages and townships, and the results took on the flavor of the soil.

#### *Moscow Architecture of the Sixteenth and Seventeenth Centuries*

The experimenting with wooden building forms and their adaptation and incorporation into the masonry architecture of Novgorod and Pskov was going on in a leisurely manner for a long time, but in early sixteenth-century Moscow this process was speeded up considerably.

The growth and aggrandizement of the Moscow Principality is strikingly reflected in the architecture of that age. The churches at first were largely modeled after the churches of Vladimir and Suzdal' where the influence of the Byzantine and Romanesque architecture is strongly noticeable. But early in the sixteenth century came the substitution of the wooden "tent" tower for the traditional Byzantine cupola. In the suburbs of Moscow a number of memorial and votive churches appeared in rapid succession in which many of the wooden forms were reflected with increasing boldness.



FIG. 6. St. Paraskeva's, Shuja Village, Archangel Prov. West façade. (Suslov del. PDRZ, I, Pl. 1)

The sixteenth century in Moscow was particularly notable for its searchings and probings in many directions, for its daring and novelty in architecture, in iconography, and in the field of the decorative arts.

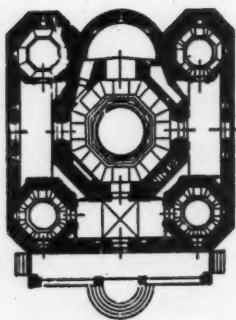
An enormous amount of artistic work was being accomplished in Moscow. The Italian architects Ridolfo Fieraventi and Alevisio Novyj had just built the Uspenskij and Arkhangel'skij Cathedrals in the Kremlin. Marco Ruffo

and Antonio Solario<sup>14</sup> erected the Granovitaja Palata (the Palace of the Facets). Moscow was flooded with new art forms, techniques and devices, and together with a richer art vocabulary and better workmanship in masonry, a clearer creative consciousness emerged, a sense of liberation from the stifling Byzantine traditions. In looking about for sources of inspiration, the Russian builders turned to the indigenous forms of wooden church architecture, examples of which abounded in and about Moscow.

The designer of the Church of St. John the Precursor (Figs. 7, 7a, 8) in the Moscow suburbat D'jakovo (c. 1529) was probably one of the first to attempt to translate the forms of wooden architecture into masonry. He evidently hesitated, not quite daring to make a complete break with the traditional cupola type. The result, though a compromise, marks a decisive step in the history of Russian architecture, pointing the way to bolder innovations. Ingenious, richly decorated, altogether unusual among the older Moscow masonry churches, this church gives the impression of being as spirited in design, as uniquely different as that of St. Basil. It remains pentacupolar as tradition demanded, but by clever manipulation of the height of the corner chapels in relation to the central element, the architect succeeded in giving the structure the general silhouette of a pyramidal tower. The transition from the base to the tower is accomplished by two recessive rows of decorative *kokoshniki*—the upper pointed and the lower semicircular—that greatly add to the beauty of the upper elements. The wall surfaces are embellished with rectangular frescoed panels and colored tiles. Over the west wall the architect placed a sharply profiled belfry, of the type developed by the Pskovian builders, but given the Muscovite decorative treatment. The general architectural masses of the church retained the austerity and somewhat heavy characteristics of early Moscow, but the decorative elements provided much variety of richness in texture and color.

A continuous line of development connects the early wooden "tent" churches and the churches at D'jakovo and Kolomenskoe (1532), the latter its culminating point. They ushered in a new era in Russian masonry architecture.

The Church of the Ascension at Kolomenskoe erected by Vasilij III (Figs. 9, 9a, 10) presents a radical step in the process of transition from "alien" to national form. Here the most characteristic and most expressive of national wooden architectural forms, the "tent," was incorporated for the first time into ecclesiastical masonry architecture. The whole building has the firmness and compactness of a monolithic pyramid, recalling the form of the great wooden "tent" churches. There is the same foundation course of the arcaded porches, the same cruciform plan, the same octagonal central element and the same "tent"-like pyramid. The kinship of this masonry structure with

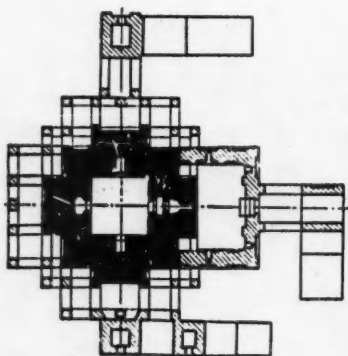
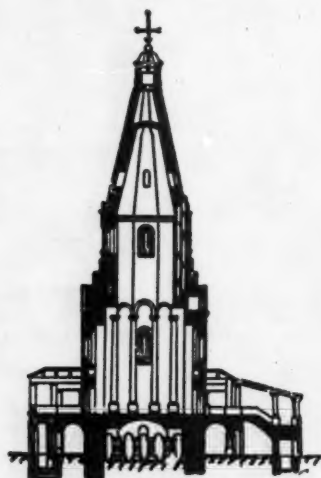


FIGS. 7, 7a, 8. L. to r.: Church of St. John the Precursor, D'jakovo, near Moscow. Section. Plan. (Rzianin, *Pamiatniki*, p. 53). Elevation. (Martynov)

the wooden churches of the North becomes especially clear when compared with the Church of the Assumption at Varzug. It is a critical monument in the history of Russian architecture. Its deep debt to the past was inevitable since it was the product of an enthusiastic Russian Renaissance. Though its elements were gathered from a variety of sources, they are fused and transfigured into national substance.

Probably the most striking monument of this period is the Cathedral of St. Basil the Blessed erected on the Red Square, Moscow (1555-1560) (Fig. 11). The cathedral

was built by Ivan IV (The Terrible) in commemoration of his conquest of the Tatar Khanate of Kazan'. Originally only the central element of the cathedral (the Church of the Intercession) was built of brick and stone; the surrounding churches were built of wood (later replaced in masonry). Like its prototypes, the churches at D'jakovo and at Kolomenskoe, it embodies the characteristic features of the wood churches of North Russia translated into masonry. Here too the transition from the square substructure to the main octagonal tower is accomplished by recessive, interspaced (*v perebezku*) tiers of ornate



FIGS. 9, 9a, 10. L. to r.: Church of the Ascension, Kolomenskoe. Section. Plan. (Rzianin, *Pamiatniki*, p. 52). Elevation. (Martynov)

*kokoshniki*. Higher up the same method is used to form the transition from the massive base to a smaller octagon supporting the tent-shaped spire surmounted by a small bulbous cupola. The eight cupolas dominated by the central pyramid are all different in design. Some of the bulbs are decorated with ribbed, spiral, or interlacing designs. Others are faceted, giving them the appearance of pineapples. Still another has the imbrications reminiscent of the aspen shingles of the wooden churches. This diversity of forms and decorative features is further heightened by the lavish use of variegated tiles and paint in all the colors of the rainbow. All these heterogeneous elements are highly individual in character, yet they combine into a harmonious ensemble.

The basic structural forms of the Moscow churches were fully developed in the sixteenth century. It remained for the next century to concentrate its efforts on the refinement of those forms and on the embellishment of the façades with opulent ornamentation. We see the "tent" spires degenerate into mere decoration; they are used as exterior ornamental features, and are set loosely in numbers over gabled roofs and on top of roof vaulting (Church of the Nativity at Putinki, near Moscow, 1619). This decorative use of the formerly functional element is combined with the liberal employment of the other sixteenth-century structural device, the *kokoshnik*. The latter, in retreating and ascending tiers, in diversified shapes and arrangements, is used as a decorative screen for the drum-like bases of the spires, and sometimes as parapets over the cornices. At the same time, the formerly large expanses of unbroken wall surfaces (of the Novgorod-Pskov architectural traditions) are replaced by rich decorative paneling.

A large number of churches appeared in rapid succession, but the stateliness, simplicity and structural logic, with which the first churches were endowed, soon gave way to an architecture which stressed the decorative quality rather than structural logic.

The "tent" began to lose its essentially structural and functional significance and acquired a purely decorative value. It became smaller and slenderer. The architects of Moscow and Jaroslavl resorted to some ruses in order to circumvent the clerical ban on this favorite roof form. They made clever use of the permission granted by the clergy to erect "tents" only over church annexes, that is, over chapels, porches and bell-towers. These "tent" roofs over the bell towers pierced by a multitude of small windows present the final and perfected stage in the development of this national roof feature.

The "tent" tradition returns however in the suburban Church of the Intercession at Fili near Moscow (Fig. 12) built in 1693 by Boyarin Naryshkin.<sup>15</sup> The church is placed on an elevated terrace-like substructure. An open gallery served by three monumental stairways surrounds the four-lobed base. Over the base rises a series of octag-

onal prisms, diminishing in size and leading up to a small terminal cupola. The general silhouette, pyramidal in form, and rising in several stages above the surrounding landscape, is reminiscent of the stately Church of the Ascension at Kolomenskoe. The exterior decorative scheme presents a unique amalgamation of Western European motifs with the basically traditional ornament of Russian architecture. Prominent in this scheme is a mutation of the classic order of the late Renaissance combined with such whimsical elements of local architectural composition as parapets adorned with cockscorns, curiously curved broken pediments, carved finials and corbels, and other details directly derived from the national forms of wood architecture.

An almost contemporary manifestation of distinctly Russian architecture under Muscovite influences took place at Jaroslavl on the upper Volga. The Church of St. John



FIG. 11. Church of St. Basil the Blessed, Moscow. West façade. (Rikhter, *Pamiatniki*)

the Precursor (Fig. 13), built in 1687, is perhaps one of the best examples. Here the architects, urged on by their wealthy patrons, gave free rein to their imagination and exceeded not only the dimensions of the Moscow churches, but the opulence of their decoration. St. John's thus has fifteen cupolas, all gilded, which contrast very effectively with the mellow red of its walls and its blue tiling. Most of the cupolas rise directly from the roof. The church is

rectangular with three apses whose walls are faceted like the Granovitaja Palata in the Moscow Kremlin. This church is the last great monument of Russian architecture of the Moscow style. It lacks the Baroque elements associated with the transition from the Russian National to the International art which, towards the end of the seventeenth century, began to dominate the architecture and the decorative arts of Russia.

In tracing the evolution of the characteristic architectural forms, we have noted their development from the

simplicity and artless charm of Russia's "wooden age" to the worldliness and decorative lavishness of the seventeenth century. The continuous interweaving of many influences and interchange of ideas undoubtedly affected the evolution of the vernacular building vocabulary. But the compelling validity of the original folk theme was so strong that its echoes and variations have persisted through the centuries, permeating and stimulating almost every field of Russian architectural aesthetics.



FIG. 12. Church of the Intercession, Fili, near Moscow. (Rzianin, *Pamiatniki*, Pl. 57)



FIG. 13. Church of St. John the Precursor, Tolchikovo, near Jaroslavl. (Rzianin, *Pamiatniki*, Pl. 49)

This article is an outgrowth of a study of the architecture and decorative arts of Russia. The author gratefully acknowledges his indebtedness to the Social Science Research Council and to the American Council of Learned Societies whose recent grant is making this study possible.

1. Santa Sophia (Church of Hagia Sophia), the masterpiece of Byzantine architecture, built in Constantinople under Emperor Justinian (532-538 A.D.).

2. The architects, artists and technicians who were brought to Moscow from Rome, Venice and Milan, during the reign of Grand Prince Ivan III and his son Vasilij III to direct the reconstruction of the Kremlin fortifications and some of its churches and palaces were most active and influential during the half century from about 1475 to 1525. See note 14 below.

3. F. Gornostaev and I. Grabar', *Derevjannoe zodgestro russkago severa* (Wooden Architecture of Northern Russia), I. Grabar', ed., *Istorija Russkogo iskusstva* (Moscow, 1909), I, 341.

4. *Srub*—derived from the verb, *rubit'*, to cut, to hew with an ax. *Srub*, therefore, connotes a structure formed of ax-hewed logs or timber.

5. The primary meaning of *klēt'* is enclosure, a fully assembled, quadri- or multilateral blockwork unit; however, it also implies a part of the house or a unit of the structural and planning system. The peasant's hut consisted of one or two units, while the house of the well-to-do, the mansion or the palace, was made up of a number of these basic units interconnected and arranged side by side or one on top of the other.

6. *Gornica*—derived from *gora*, hill, elevation; hence *gorny jarus*, elevated or upper tier and, by extension, *gornica*—upper story room.

7. *Podklēt'—pod* = under; hence *podklēt'* means the structure supporting the *klēt'*.

8. The *bylina* of the Kiev cycle "The Youth of Churilo Plenkovich"

contains a description of the splendors of the mansion of the youth's father, the doughty old merchant Plenko. No doubt allowance must be made here for poetic license, but this description of a suburban mansion coincides in many respects with the drawings of Meyerberg (1661), depicting a seventeenth-century boyar manor in the village of Nikol'skoe near Moscow.

9. *Žar-Ptice*—a fabulous golden-feathered bird of Russian folklore.

10. F. Gornostaev and I. Grabar', *op.cit.*, p. 332. For an informative, richly illustrated study of early Russian wooden architecture, see P. Maksimov and N. Voronin, "Wooden Architecture in The XIII-XVI Centuries" in I. Grabar', ed., *Istorija russkogo iskusstva* (Moscow, 1955), III, 245-281.

11. There were churches reaching a height of 215 feet. A height of 140 feet was quite common.

12. Quoted by P. Milyukov, *Outlines of Russian Culture*, III, 13. See also I. Zabelin, *Cherty samobytnosti v drevnerusskom zodgestre* (Moscow 1900), p. 138.

13. The practice of having two, three, five, seven, nine and thirteen symbolic cupolas dates from the eleventh century.

14. Ridolfo Aristotle della Alberti Fieravanti (1115-1186) of Bologna. Architect, expert in military fortifications, casting of metals, and pyrotechnics, he was engaged in 1475 by Tolbuzin (the Ambassador of Ivan III to Rome) to work in Moscow. He supervised the building of the Uspenskij Cathedral in the Kremlin and became Ivan's chief architect, military engineer, and master of artillery.

Alexisio Novyj, architect, "Maestro da Muro" of Milan, arrived in Moscow in 1491. Marco Ruffo and Antonio Solario also Milanese architects arrived, the first about 1480, the second in 1490.

15. Boyarin Naryshkin—maternal uncle of Peter I. His name is associated with the "Naryshkin" phase of the Moscow Baroque period in architecture.



# SOME VIRGINIAN HOUSE PLANS RECONSIDERED

MARCUS WHIFFEN

TO DETERMINE the relative importance of the parts played by tradition, imitation and invention in the design of any building is no easy matter, and the difficulties increase when the building in question belongs—as most of the plantation houses of colonial Virginia belong—in a back-water rather than the main stream of architectural development. Westover, in Charles City County (Fig. 1), and Nomini Hall, Westmoreland County (Fig. 2), are cases in point. If Waterman's restoration of the latter is correct, these two houses were strikingly similar in plan. They were also, as Waterman pointed out,<sup>1</sup> strikingly similar in plan—though *only* in plan—to Queensberry House, London, as designed by Leoni in 1721 and published by him in 1726.<sup>2</sup> Neither Nomini nor Westover was begun much before 1730, so there would have been time for Leoni's book to reach the colony. Yet before we accept these as clear cases of imitation, we would do well to ask whether another process might not have produced the same results. We may then prefer to see Nomini and Westover as "double piles" formed by the duplication of the earlier standard type of Virginian house, with end chimneys and with its ground floor divided into hall, parlour, and central passage. The only innovation, according to this view, is the lighting of the passage or entry (rather unfortunately called "hall" by Waterman) by a window on one side of the door—a logical development following upon the enlargement of that part of the house to mansion scale.

If we see the plans of Nomini and Westover in this light, we may well hesitate to refer to the typical "four-square" plan of eighteenth-century Virginia as Palladian, especially when we weigh the many instances of central stairs against the consideration that Palladio only once (in the Villa Ragona at Le Ghizzole) placed the stairs on the main front-to-back axis of a country house. The influence of Serlio, on the other hand, has probably been underrated. The unequal spacing of the windows in the main front of the Governor's Palace at Williamsburg, for example, may be traced back to Serlio,<sup>3</sup> though the motif was introduced into English architecture by Sir Roger Pratt.

MARCUS WHIFFEN's new book, *The Public Buildings of Williamsburg, Colonial Capital of Virginia*, will be published this fall by Colonial Williamsburg.

Outside Virginia, Mulberry Castle in South Carolina has a plan which could have been suggested by one in Serlio's treatise;<sup>4</sup> if it was not, I would suggest that Scottish influence is more likely to have played a part than the French model proposed by Waterman.<sup>5</sup> Similarly, in Virginia but outside our present subject, the College of William and Mary, had its quadrangular plan been completed, might have resembled a plan in Serlio's Book VII pretty closely,<sup>6</sup> and at the same time would have resembled—on plan only—Heriot's Hospital, Edinburgh (based, as Summerson has pointed out,<sup>7</sup> on another plan by Serlio) more closely than it would have resembled any college building in England.

Stratford, Westmoreland County, which was begun c. 1725, is perhaps the finest Virginian house of the colonial period, as certainly it is the most atypical. It has been suggested that its plan (Fig. 3) was inspired by the Capitol at Williamsburg, but the differences are fundamental. It has also been regarded as a Baroque version of the Jacobean H-plan house—such as Vanbrugh's own house at Esher was.<sup>8</sup> This will not really do, either. What distinguishes Stratford from Jacobean H-plan houses is the open longitudinal axis, through the central hall and the lobbies between the chimney stacks. For an H-plan with a corresponding feature we may turn to Serlio's Book VII, Cap. IX, "la nona casa della città" (Fig. 4). Here we not only have the same theme, but the shape of one of the lobbies is surely too close to those at Stratford for the resemblance to be coincidental; another similarity is seen in the placing of the stairs. Although in elevation this house of Serlio's with its towers on the entrance front does not much resemble Stratford, the placing of the main rooms there on a *piano nobile* with a high basement below could have been suggested by it or by any one of a number of other designs in the same book.

For a Virginian house of the period of Nomini Hall, Westover and Stratford that was undoubtedly inspired by existing English buildings we may turn to Rosewell, Gloucester County, which was begun by 1726 (Fig. 5). Waterman sought to derive the plan of Rosewell from Count Hall, Shropshire, built in 1704 to the design of John Prince. In fact its architect, whoever he may have



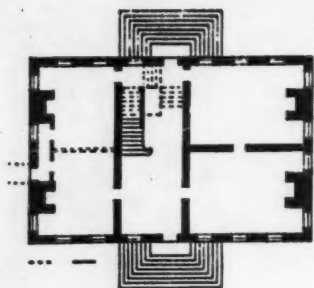


FIG. 1. Westover, Charles City County, Virginia. Plan.\*

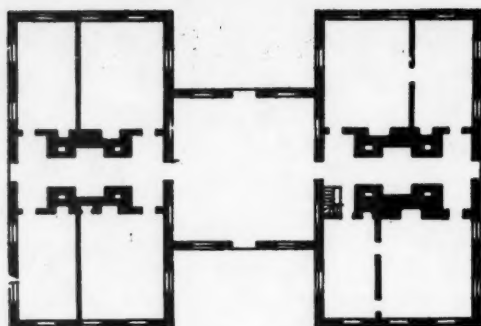


FIG. 3. Stratford, Westmoreland County, Virginia. Plan.\*

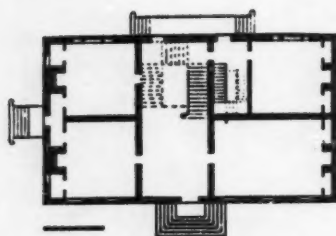


FIG. 2. Nomini Hall, Westmoreland County, Virginia. Plan.\*

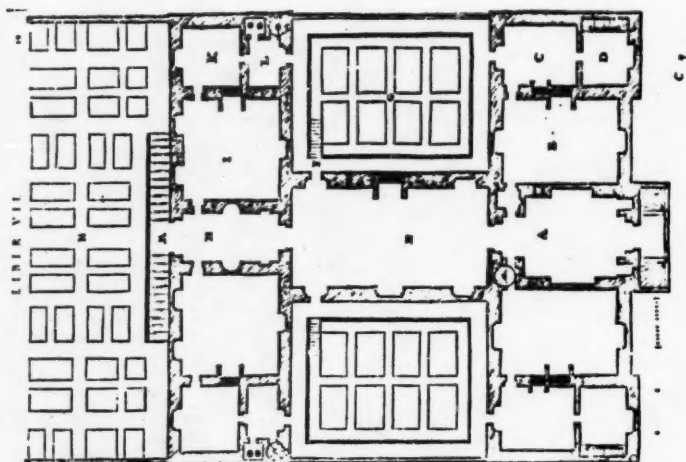


FIG. 4. House plan after Serlio. (*Architettura*, Book VII)

been, had less obscure models ready to hand in the first volume of Colen Campbell's *Vitruvius Britannicus* (1715). He seems to have used three of them: Buckingham House (c. 1705), designed by William Winde, Easton Neston (1702), by Nicholas Hawksmoor, and Roehampton House (1710), by Thomas Archer. From Buckingham House (Fig. 6) he took the stair hall—as had Prince, who, being a Londoner,<sup>9</sup> could have known the building before it was

published. To Easton Neston (Fig. 7) Rosewell must have owed the cruciform effect of the converging stairs and passages. To the example of Roehampton House (Fig. 8) may be ascribed the pavilions that break forward on the lateral elevations, the balanced staircases, and the disposition of the chimneys. Eclecticism of this kind is not encountered again in Virginia until the 1750's.

COLONIAL WILLIAMSBURG

1. T. T. Waterman, *The Mansions of Virginia 1706-1766* (Chapel Hill, 1946), pp. 141-142.

2. In *Some Designs for Buildings both Publick and Private*, published with *The Architecture of L. B. Alberti*.

3. See, for instance, *Architettura*, Book VII, p. 155.

4. *Ibid.*, Book III, p. 123.

5. *The Dwellings of Colonial America* (Chapel Hill, 1950), p. 35.

6. *Architettura*, Book VII, p. 67. The sources of William and

Mary are discussed more fully by the author in *The Public Buildings of Williamsburg* (Williamsburg, 1957).

7. John Summerson, *Architecture in Britain 1530-1830* (London, 1954), p. 333. The Serlian plan in question is in *Architettura*, Book VII, p. 225.

8. For plan see *ibid.*, p. 169.

9. See H. M. Colvin, *A Biographical Dictionary of English Architects 1660-1840* (London, 1951), p. 476.

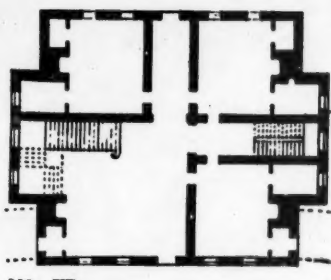


FIG. 5. Rosewell, Gloucester County, Virginia. Plan.\*

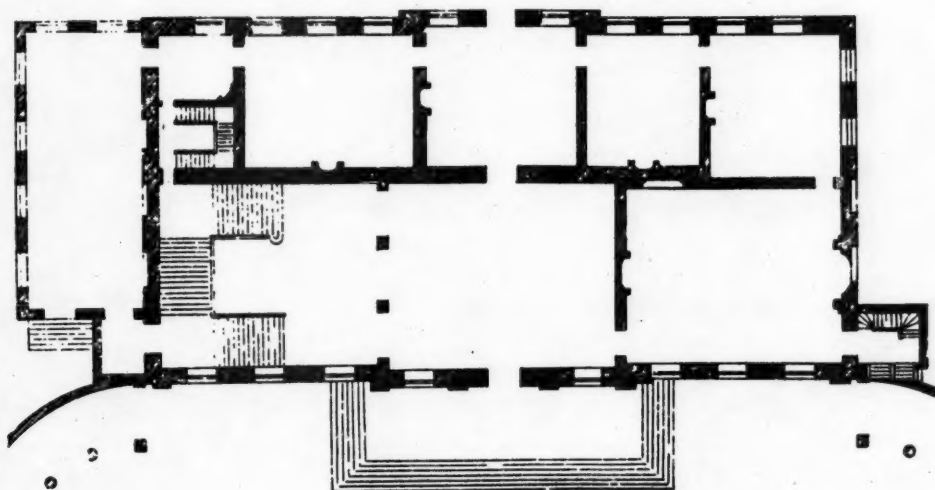


FIG. 6. Buckingham House, London. Plan.

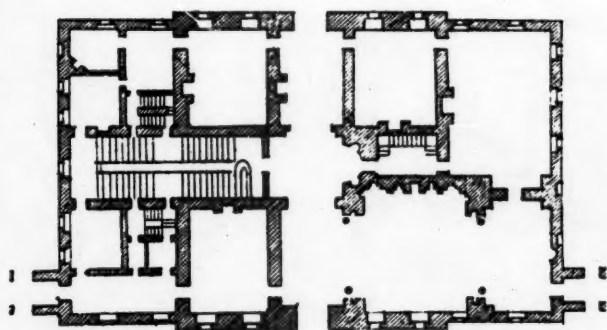


FIG. 7. Easton Neston, Northamptonshire, England. Plan.

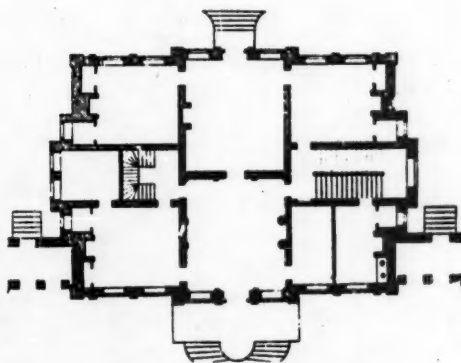


FIG. 8. Rochampton House, Surrey, England. Plan.

\* From Thomas Tileston Waterman, *The Mansions of Virginia, 1706-1766*, courtesy of the University of North Carolina Press.

## THE GIRARD COLLEGE ARCHITECTURAL COMPETITION, 1832

### Introduction: Girard College Treasure

CHARLES E. PETERSON, Editor AMERICAN NOTES

THAT GIRARD COLLEGE in Philadelphia has carefully preserved its own papers as well as the household furnishings and many of the business and personal papers of Merchant-Philanthropist Stephen Girard (1750-1831) is well known to local historians. That the drawings submitted in the architectural competition for the original college building in 1832 had been stored away in Founder's Hall and forgotten three generations ago came as a great surprise. We thought that this recent discovery should be shared with architectural historians of the 19th century as soon as possible; the names of Walter, Town and Davis, Strickland, Haviland and others make headlines in American history.

We proposed to E. Newbold Cooper, president of the College, that Agnes Addison Gilchrist make a preliminary survey of the collection so that a list could be published

here. We are happy to report that this has been done and the list will be found below. By the time we are off the press the original drawings will have been deposited in the Manuscript Department of the Historical Society of Pennsylvania, 1300 Locust Street, Philadelphia 6, Pa.

Dr. Cooper has permitted us to publish part of a paper presented by him before the Penn Club of Philadelphia, telling the story of this splendid hoard of drawings which total nearly two hundred separate pieces. We reproduce here for the first time three of the competition drawings which were photo-copied using the Harper-Strickland Fund.

Mrs. Gilchrist fortunately had on hand an essay on the College's architectural competition prepared some years ago which also appears in this issue.

### The Drawings Recovered

E. NEWBOLD COOPER, President of Girard College

THE PLANS in the competition having been bought and paid for, so to speak, they were no doubt filed away by the Secretary of the Girard College Board of Directors and seem to have dropped out of sight and out of mind. In January, 1885, Frank M. Higley was elected Secretary of the Board of Directors of City Trusts. Not long after his appointment he had a large cabinet constructed and placed in the top of the main building at Girard College Founder's Hall and filed therein an accumulation of Board papers, minutes, resolutions, correspondence, and miscellaneous items, including the drawings under discussion.

The rediscovery of these drawings is tied up with the

restorations and reconstructions of the Independence National Park in downtown Philadelphia. A part of the development there will be the restored offices of the Board of Directors of City Trusts. When this building was turned over to the National Park Service, our Board moved into the Stephen Girard Building at 21 South 12th Street. Here there was a spacious sub-basement which could be made reasonably bomb-proof. Both the Board and the College were concerned that materials belonging to the former be sorted and those that had value moved to the new location, while the rest were discarded. Our Business Manager William Jamison of the Class of 1911 at Girard, is responsible



FRONT ELEVATION.  
GIRARD COLLEGE  
1832

FIG. 1. Girard College Competition Drawing. First Prize, front elevation. Thomas U. Walter, December 4, 1832. The winning design lacks the peristyle as ultimately built according to the wishes of Nicholas Biddle.

FIG. 2. Girard College Competition Drawing. Second Prize, side elevation. William Strickland, December 25, 1832. "Morris, Del." The front elevation drawing has not been found.

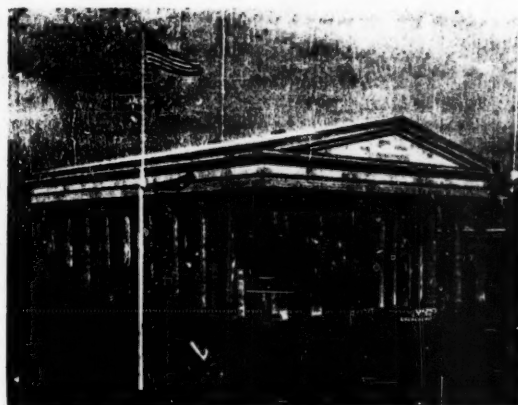


FIG. 4. Girard College, Philadelphia. Founder's Hall today: The main unit as eventually built with a colonnade all the way around it. One of the "Out buildings," now a student dormitory, may be seen in the right background. (Courtesy Girard College)

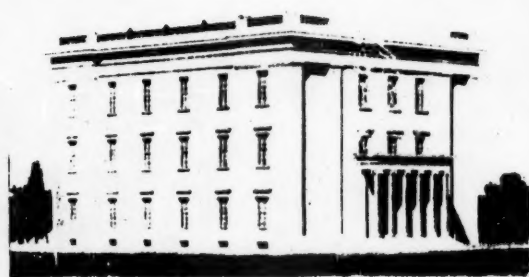


FIG. 3. Girard College Competition Drawing. Unplaced design, perspective. Town, Davis & Dakin, undated. This is one of two watercolor renderings, probably by A. J. Davis, but unsigned. The firm name is in Davis's lettering.

for locating and calling to our attention these living testimonies to the ability and techniques of America's greatest architects of their day.

The drawings were a half-century old when Mr. Highley had them moved. No doubt they seemed of little practical value in 1885, when the College had been in operation since 1848. A few were lost and others damaged, but the great majority are in reasonably good condition. No one has looked upon them since at least 1885, though more than one author on the Greek Revival or a biographer of the leading architects would have rejoiced to have seen

the designs submitted. Books which mentioned them at all merely stated that save for one or two unsigned and undated sketches they had disappeared.

Mr. Jamison turned the drawings over to Miss Hazel Erchinger, our Head Librarian, who is the custodian of Girardiana. She recognized them for what they were and called me over to suggest that these items deserved better care than we could give them. We immediately thought of the Historical Society of Pennsylvania, so at the next Board meeting I asked permission to negotiate a very long term loan with that group, which was granted.

## Girard College: An Example of the Layman's Influence on Architecture

AGNES ADDISON GILCHRIST, Author of WILLIAM STRICKLAND,  
ARCHITECT AND ENGINEER, 1788-1854

IN WRITING of the Greek Revival in America, Talbot Hamlin pointed out that it contained double elements: "one, purely architectural, . . . the other, almost purely emotional and associative. . . . the architects, on the one hand, treating the Greek forms as inspiration only; the critics and the amateurs taking the second view, that Greek buildings were models to copy."<sup>1</sup>

The importance of the amateur's enthusiasm must not be overlooked. If Nicholas Biddle had not visited Athens<sup>2</sup> and become the great amateur of Greek forms, Girard College would have conformed to the wishes of its donor with a plain exterior. Girard College as it now stands with its impressive peristyle is the climax of the Greek Revival in the United States.

Hamlin suggested that some of "the same rather naïve enthusiasm"<sup>3</sup> may have animated Stephen Girard. His name is connected with the most sumptuous example of the Greek Revival in the country, but his own wish was for a completely plain and simple building. He was a Frenchman and a merchant; his taste was utilitarian.

Girard gave specific directions for the erection of his college for orphans in his will: "The said college shall be constructed with the most durable materials, and in the most permanent manner, avoiding needless ornament, and attending chiefly to the strength, convenience, and neatness of the whole: . . . It shall be fire-proof inside and outside. The floors and roof to be formed of solid materials on arches turned on proper centers, so that no wood may be used, except for doors, windows and shutters. . . . In minute particulars not here noticed, utility and good taste should determine."<sup>4</sup>

How little Girard was impressed by classic culture is shown by his directions for the instruction of the orphans. "They shall be instructed in the various branches of a sound education: . . . the French and Spanish languages. (I do not forbid, but I do not recommend the Greek and Latin languages). . . . I would have them taught facts and things, rather than words and signs."<sup>5</sup>

Girard's mind had been formed in the eighteenth century. He belonged to the Age of Reason. He had read the French *philosophes* and how deeply their teachings had penetrated is shown in his will by his recommendations for the religious training of the orphans and his prohibition of a minister of any faith within the college grounds. He wrote, "as there is such a multitude of sects, and such a diversity of opinion amongst them, I desire to keep the tender minds of the orphans, who are to derive advantage from this bequest, free from the excitement which clashing doctrines and sectarian controversy are so apt to produce; my desire is, that all the instructors and teachers in the College, shall take pains to instil into the minds of the scholars, the *purest principles of morality*, so that, on their entrance into active life, they may *from inclination and habit, evince benevolence towards their fellow creatures, and a love of truth, sobriety, and industry*, adopting at the same time, such religious tenets as their *matured reason* may enable them to prefer."<sup>6</sup>

The history of the main building at Girard College in Philadelphia shows the way in which the enthusiasm of the amateur may over-ride the injunctions of the testator and the designs of the architect.

Stephen Girard died December 26, 1831, the first Ameri-



can multimillionaire philanthropist. His estate was administered by the City Councils of Philadelphia. There were private and civic bequests, but the bequest described in Clause XXI directed that two million of his estate be set aside for the establishment and maintenance of the Girard College for Orphans. Capital was to be used to build the utilitarian main building, so minutely described by Girard, and the four subsidiary buildings. These were to be finished as soon as was practical and the residue of the bequest was to be invested so that the income might maintain the college for three hundred orphans.

Girard never employed an architect for any of his houses and evidently expected that a builder would construct the college, hence his detailed directions that the upper windows be copied from his house on North Water Street and the lower windows from his house at Passyunk. Councils, however, felt that for such extensive building an architect should be employed. On January 3, 1833, the committee appointed to procure plans for the Girard College reported: "That agreeable to a resolution, passed on the 14th of June, 1832, they caused an advertisement to be published in most of the newspapers of this city, inviting the attention of architects and others to this subject, in consequence of which they have received and examined designs and plans from the following named gentleman: Higham and Wetherill, New York; Town, Davis & Co. do; William Strickland, Thomas U. Walter, W. Rodrique, John Haviland, George Strickland, William B. Crisp, R. W. Israel and Y. J. Stewart of Philadelphia; Mr. Jenks of Germantown; Edward Shaw, John Kutts and Isaiah Rogers of Boston; Lieutenant William M. Mather of West Point and two others."<sup>7</sup> The plans were exhibited in Independence Hall and members of Councils were requested to examine them.

On February 3 the awards were announced: first premium of \$400 to Thomas U. Walter, second of \$200 to William Strickland, and third of \$150 to Isaiah Rogers of Boston. Councils also announced that further premiums would be awarded on the understanding that the plans would be left with the city. The amounts stipulated were \$100, \$50, and \$25.<sup>8</sup> These awards were never made for a change was made in the administration of the Girard College Trust in response to the criticism that Councils had too much power hence the Girard bequest would be at the mercy of politicians.

In order to have a non-political body guard the interests of Girard College, "On the 31st of January 1833, Councils enacted an ordinance providing for the election of a Board of Trustees for the management of the College, and on the 21st of the following March, an ordinance relating to the buildings, in which provision was made for the election of an Architect, and a Building Committee consisting of *four* members from each Council."<sup>9</sup> The Board of Trustees was elected on February 11 and

Nicholas Biddle was elected president. What next transpired can best be told in Biddle's own words.

"Our first business was to erect the College; a matter of much delicacy and difficulty. The Councils had offered a premium for the best plan and the premium was awarded to a young architect by the name of Thomas U. Walter. They next elected the Architect, and Mr. Walter was again the successful candidate. Then there was an Architect appointed and his plan approved, and the danger was that this plan might be adopted. I say the *danger*. Mr. Walter was the son of a bricklayer and had begun life by working with his father—at a later period he studied architecture with Mr. Strickland, and succeeded to the post of architect against his old Master, by a majority of (I believe) one vote. His plan was for a large, showy building, wanting simplicity and purity, but not ill adapted to please others as it had already pleased the Councils. . . . The first difficulty was to wean Mr. Walter from his plag, —to which the natural self-love of a young artist, of course, attached him, and I endeavored, while doing justice to the merits of his plan, to excite his Ambition to achieve something beyond his plan or the plan of any one else in short to take advantage of this rare opportunity of immortalizing himself by a perfect, chaste specimen of Grecian architecture. . . . He behaved perfectly well about it, no one could have done better. He renounced his own plan and came at once into my views, and prepared all the necessary drawings and seconded me with great cordiality. We then had to work upwards through the Committees. Our first omens were very unpromising. The plan seemed so foreign to all the colleges and poorhouses known that it startled the members.—But by dint of perseverance and persuasion, we succeeded in making converts gradually."<sup>10</sup>

Mr. Biddle is too modest. It is amazing how quickly he was able to enforce his wishes. The Joint Committee made up of members of Councils and of the Board of Trustees of Girard College and Walter, the architect, agreed on April 18, 1833, "that all the plans which had been previously offered to Councils, should be set aside, and that the Architect be directed to prepare a new design for the main building, with a portico embracing the whole three stories in height, extending around the entire structure after the manner of a Greek temple. . . ."<sup>11</sup> The plans were drawn, approved by the General Committee, the Board of Trustees (Biddle, Chairman) and the Joint Committee (Biddle, Chairman) and adopted by Councils on the 29th of April. Excavations began on May 6 and the cornerstone was laid on July 4 with an appropriate speech by Nicholas Biddle.

Not all the critics were stilled, however. In the same year, a pamphlet appeared with the title *Outline of a Plan for the Administration of the Girard Trust* which contained some very caustic comment on the discrepancies between the building dictated by the will and the plans

adopted by Councils. After discussing the directions for the building of the College, the writer of the pamphlet conclude. "This is Mr. Girard's College, and it will be perceived that it is an entirely plain, simple marble, or granite faced building, with such directions for its construction as would prevent its being made into a Grecian Temple, or a Gothic Castle, without an entire destruction of every part of this description."

The pamphleteer then points out some of the fallacies in the defense of the plan which the Building Committee submitted to the City Councils. A defense of the choice of the Corinthian order was that "For their model they select the front of Mr. Girard's Bank—1) Because it was his own house 2) Because he had recently before his death renewed and embellished this front." The critic points out that Girard had no fondness for classic art or literature and that he owned that particular banking house only because "it was cheap, and the arrangements of its interior suited him." Girard bought it for a third of its original cost in 1812 when Congress refused to renew the charter of the First Bank of the United States. "And as to the renewal and embellishment, it consisted in taking up and relaying the steps, from which he cut off the mouldings belonging to the Corinthian order, and gave them plain square edges, such as he directs to be given to the steps of the staircases in his college. When it was represented to him that this would destroy the Corinthian character of the front, he certainly did not praise the order, but told his mason he would not have those Kick-Toes. The truth is, Mr. Girard despised ornamental architecture, and never employed an architect in the planning or erection of any of his buildings."

The critic also was unconvinced by the argument of the Building Committee that the front and back porticos were needed to make a graceful building and the colonnades on the sides were needed for strength. If this were really so, then to conform to the spirit of the will, only the side columns should be erected, he averred.

The building progressed and the criticism continued. By 1840 public opinion was so aroused by the great expenditure and by the length of time required for completion that the Board of Trustees to defend its actions addressed a Communication<sup>12</sup> to the Select and Common Councils of Philadelphia. The memorandum was reported upon a Special Committee which hedged as to the exact meaning of Girard's will, but did admit that the building was costing too much.<sup>13</sup>

The notorious suit of the next of kin to change the will on the grounds that the college was irreligious was climaxed by Daniel Webster's oratory. *A Defence of the Christian Religion* and concluded by Chief Justice Story's ruling that an institution may be Christian without being sectarian.<sup>14</sup>

Another pamphlet was published entitled *An Appeal*

to the Citizens of the City of Philadelphia Against the City Councils. It is a mixture of good historical recording and diatribe as can be seen in the following paragraphs which begin with a quotation from the Report of the Building Committee of 1837. "This beautiful work of art," says this transcendental Committee, "will form (when Complete), an object of the highest interest, especially to Philadelphia—inasmuch as no country on earth can boast a purer specimen of architecture, or a more substantial and elegantly wrought memorial, to convey to distant ages the 'spirit of the time'."

"To convey to distant ages, indeed," sneers the pamphleteer, "the spirit of the times—the spirit of an over-speculating, over-banking, stock-jobbing and suspending age, but not the spirit of its plain, simple, and unostentatious founder, who would never recognise in this ancient Lantern his humble but charitable college for fatherless and motherless children."

Critics might lash out at Biddle as in the sentence above, but his admirers spoke very differently as Joseph R. Chandler in *The Address Delivered on the Occasion of Placing the Crowning Stone on the Main Building of the Girard College for Orphans, August 29, 1846*. Chandler referred to the laying of the cornerstone "which seemed to derive new and favorable auspices from the position and character of him [Biddle] whose eloquence gave charm to the ceremonies, and whose pure classic taste seemed to insure perfection to the plans."<sup>15</sup>

Owing to Nicholas Biddle's enthusiasm for Greek architecture, the text of Girard's will was manipulated and his wishes not carried out. Biddle's revised plan required the expenditure of too much money. Its cost was almost two million dollars (\$1,933,821.78), which included the amount of \$31,525.11 drawn from the Residuary Fund to compensate for the depreciation of stocks in 1810.<sup>16</sup> Secondly, too much time elapsed from the date of the laying of the cornerstone to the formal opening of the college, fifteen years.<sup>17</sup> Lastly, too much "needless ornament"<sup>18</sup> was used.

The Building Committee was naturally aware of these lapses in their commission. In their *Final Report* of 1818 they tried to justify themselves. "As much objection has been made, during the progress of the work, to the costliness of the plan, the Committee would here take occasion to say, that such objections are without foundation, and arise from a very partial examination of the Will. It should be remembered that Mr. Girard gave specific directions as to the length, breadth and height of the buildings. . . . Hence, there is nothing that could have been omitted, except the surrounding portico; and that is fully justified, if not required, by the injunction of Mr. Girard, that 'utility and good taste should be left to determine in particulars not specified in the Will'."<sup>19</sup>

The Building Committee may have objected to people

who made only a partial examination of the will, but not even they quote accurately from it. The sentence most similar to the one quoted above is, "In minute particulars not here noticed, utility and good taste should determine."<sup>20</sup> It cannot be allowed that a peristyle is a minute particular, especially when the cost of the columns excluding stylobate and entablature was over half a million dollars (\$541,796.00) and more than one-fourth of the total cost of the original buildings.

The change of plan is discussed in the Architect's *Final Report*, dated January 8, 1848, for he says, "this design is essentially different in many particulars from the plans I had the honor to submit originally to Councils, as well as from every other plan that was presented in pursuance of their advertisement. . . ."<sup>21</sup> Walter also stated that the proportions of the building did not suit him.<sup>22</sup> As a more precise student of classical architecture, the non-conformist ratio of eight columns on the front to eleven on the side troubled the taste of the architect,<sup>23</sup> but not that of the amateur. Biddle, the enthusiast for Greek architecture, was interested only in the effect of the peristyle and completely unhampered by precedent. Walter also discussed in detail why the choice of the Corinthian order, the most ornate, was dictated by economy.<sup>24</sup>

Today, with our architectural tastes simplified by the Bauhaus tradition, we are more appreciative of the side-buildings, excellent examples of rational design, and of the enduring qualities of sound, fire-proof, masonry construction than of the expensive obeisance to the "glory that was Greece." We are more in sympathy with Girard than with Biddle. Nevertheless, without Biddle's grandiloquent addition, Girard College would not have been so much admired in the last century.

How it was admired and how much is recorded in the speeches given at the celebration of the semi-centennial

of the college in 1898. The mayor of Philadelphia, Charles F. Warwick, said: "This is said to be the finest specimen of the Corinthian order of architecture of modern times; and perhaps very few structures of the past, even in the golden days of Greece, when the Doric, the Ionic and the Corinthian orders were conceived and assumed shape and form, ever surpassed in beauty of proportion, in delicacy of outline, or in perfection of symmetry, the building to which I refer."<sup>25</sup> Adam Fetterolf, the president of the college, was also laudatory: "A word of praise is due the architect of the first College buildings, Mr. Thomas U. Walter. His task was not an easy one. He had in this country no precedent. He built the first Grecian temple in the United States, and the finest specimen in existence at the present day."<sup>26</sup>

The history of the design of Girard College shows how important the influence of the layman or amateur was in the development of the Greek Revival in this country. Nicholas Biddle's role is well expressed by J. R. Tyson in his *Address* delivered on the first anniversary of the opening of Girard College on January 1, 1819. In speaking of Nicholas Biddle, who died in 1841, Tyson said, "His elegant taste sought to mould the plan of the Founder into a symmetrical and consistent edifice. The building in its exact dimensions of length and breadth, in its costly workmanship and in its expensive and durable materials, was to be erected in accordance with the directions of the Testator. It remained only for a classical mind to devise, under the guidance of the ingenious Architect, the noble colonnade, so necessary to the superincumbent mass, and to the architectural beauty of the whole. It stands a monument of the munificent public spirit of the Founder, and of the pure classical taste of those who were entrusted with the execution of his intentions."<sup>27</sup>

(This paper was written in 1942, referred to by Talbot Hamlin, *Greek Revival Architecture in America*, 1941, p. 83. It was also loaned to Harry Emerson Wildes when he was preparing a life of Nicholas Biddle in 1945.)

1. Talbot Hamlin, "The Greek Revival and Some of Its Critics," *The Art Bulletin*, IV, 3 (Sept., 1942), 244.

2. *Proceedings of the Numismatic and Antiquarian Society of Philadelphia* (1916). Excerpts from the Diary of Nicholas Biddle, edited by Wm. N. Bates.

3. Hamlin, *op.cit.*

4. Will of Stephen Girard in Henry W. Arey, *The Girard College and Its Founder* (1852), pp. 67, 71.

5. *Ibid.*, p. 74.

6. *Ibid.*, p. 75.

7. *United States Gazette*, Philadelphia, January 7, 1833.

8. *Hurard's Register of Pennsylvania*, XI, 126.

9. *Final Reports of the Building Committee and the Architect of the Girard College for Orphans, 1848*, p. 14.

10. "Mr. Nicholas Biddle and the Architecture of Girard College," *Pennsylvania Magazine of History and Biography*, XVIII (1894), 354-60.

11. *Final Reports*, p. 15.

12. Communication from the Board of Trustees of the Girard Col-

lege for Orphans to the Select and Common Councils of Philadelphia, July 16, 1840 (22 pages).

13. Report of the Special Committee, appointed by the Common Council on a Communication from the Board of Trustees of the Girard College, August 27, 1840 (53 pages).

14. Arey, p. 34.

15. *Final Reports*. Address by Chandler, Aug. 29, 1846, p. 64.

16. *Final Reports*, p. 5.

17. *Op.cit.*, p. 16. Excavations begun May 6, 1833; buildings transferred to Directors Nov. 13, 1847.

18. Will, *op.cit.*, p. 67.

19. *Final Reports*, p. 16.

20. Will, *op.cit.*, p. 71.

21. *Final Reports*, p. 18.

22. *Ibid.*, p. 13.

23. *Ibid.*, p. 16.

24. *Ibid.*, p. 19.

25. *Semi-centennial of Girard College 1848-1898* (Philadelphia, 1898), p. 28.

26. *Ibid.*, p. 68.

27. Job R. Tyson, *Discourse Delivered on the First Anniversary of the Girard College for Orphans* (Philadelphia, 1819), p. 2.



## A Note on the Drawings

AGNES ADDISON GILCHRIST

### *The Competition Drawings*

LISTED HERE are 17 competitors as identified on the drawings; the number of drawings found and the architectural style are set out in parentheses. Many drawings are missing from the group as exhibited in Independence Hall in January, 1833. The total of competition drawings preserved is 91.

- Chaumer, Michel, August, 1832 (6 Italianate).  
Crisp, W. R., Practical Builder, Philadelphia, December 29, 1832 (6 Federal).  
Egelmann, Charles F. (6 of 18th-century barracks type).  
Haviland, John, Philadelphia, December 31, 1832 (3 Greek Revival).  
Higham & Wetherall, (74 Chambers St., New York), (5 Greek Revival).  
Holden, Isaac, Philadelphia, December 20, 1832 (3 Regency).  
Kutts, John, Boston, (12 Greek Revival).  
Rodrigue, W., Philadelphia, August 1832 (5 Regency).  
Rogers, Isaiah, Boston, (3 Greek Revival).  
Shaw, Edward, Boston, (7 plus 2 pp. specifications, Main building, Greek Revival, side building 18th-century barracks type).  
Skriving, John, February, 1833 (2 French r. 1800).  
Stewart, Y. J., Philadelphia, (4 Regency).  
Strickland, George, Philadelphia, (2 Regency).  
Strickland, William, Philadelphia, December 25, 1832, "Morris, Delt." (9 French and Greek Revival).  
Town, Davis & Dakin, New York, (3 Greek Revival).  
Walter, Thomas U., Philadelphia, December 4, 1832 (4 Greek Revival).  
Unidentified architect or engineer, (7 undetermined style; the elevations follow instructions in the Girard will; ceilings to be constructed of cast iron).

### *English College Drawings*

In 1838, Walter was sent abroad by the Trustees of Girard College to study similar English buildings. There are 12 drawings here which he probably brought back with him. One shows heating and washing equipment. Another gives the plans of Watson's Trust Hospital, Edinburgh, dated 131 George St., March 15, 1837. Two are of the Oldham Blue Coat School, signed Richard Lane, Architect, Manchester (see H. M. Colvin, *A Biographical Dictionary of English Architects, 1660-1840* [Cambridge: Harvard Univ. Press, 1954], p. 353). Eight drawings are of the London Orphan Asylum, Clapton, two of which are signed James Newman, 18 King Street, Finsbury Sq., 3 January 1835 (not listed in Colvin).

### *Other Walter Drawings*

In all there are 91 Walter drawings. Four were submitted in the competition, eight others of the College buildings were prepared later. Three are for unidentified projects, including a great plan for buildings at Tenth and Passyunk Road in South Philadelphia. Seventy-one concern the construction of Girard College. (Also in the Girard

College Library is a notebook kept by Walter during the construction period.) Most of the drawings concern the Main building and include working drawings for stone masons and plasterers, a full-size ink drawing for the pattern maker of the cast-iron balusters for the stairs; and three drawings for the cast-iron skylights, one dated 1811, another April 29, 1812. Fifteen drawings, including elevations, plans and details, are for the side buildings or dormitories. Five are for other buildings on the campus: "Design for a Farm House, June 11, 1833"; "Elevation of a Barn, April 7/34"; "Remodelling of Mr. Garrett's Cottage, Jan. 21/35"; "Design for a Magnetic Observatory, August 10, 1839"; and an undated pencil sketch for a Gothic chapel.

Two drawings are of sepulchral monuments; one is of an Egyptian tomb, labelled by Walter "Mrs. Ball's Monument at Laurel Hill." Three concern other Philadelphia buildings: "Working drawing of Capital"; "Wills Hospital, Jan. 9, 1833"; "Front Elevation Contributionship Insurance Office, July 21, 1835"; "Design for alteration of roof, Philadelphia, Library."

### *General Comments*

Our knowledge of American architectural design of the 1830's is immensely increased by the rediscovery of these drawings. The popularity for the Greek Revival is reaffirmed with seven of the seventeen competitors choosing it. No Gothic design has been found; perhaps none was offered out of respect for Girard's injunction against clergymen. Four architects offered designs which resemble English Regency buildings. Two are French in appearance, perhaps intended as a compliment to Girard the Frenchman. The practical builder, Crisp, offered a Federal building. The widest range is between the design of Egelmann which would have been fashionable in 1750 and that of Chaumer, whose Italianate façade would have been stylish in 1850. The unidentified competitor offered an engineer's solution with a factory exterior and cast-iron ceilings.

After comparing the drawings, it is easy to understand Walter's winning because of his adherence to the stipulation of the Girard will which he copied on one of his competition drawings, the pleasing effect of the whole, and the excellence of his rendering. William Strickland submitted a portfolio measuring 2½ x 4 feet with renderings by Morris. His presentation is ostentatious and the design overbearing. From the point of view of usefulness today, Isaac Holden's design and plans seem by far the best; they include a gymnasium and a swimming pool.

The newspaper report of the competition says that seventeen architects competed. Coincidentally, there are now 17 sets of competition drawings. Only twelve are as listed. The press account also mentions R. W. Israel of Philadelphia; a Mr. Jenks of Germantown, and one Mather of West Point. Two more are unnamed, Chaumer, Egelmann,



Holden and Skirving, whose drawings are found in this group, are not mentioned.

To Dr. E. Newbold Cooper, president of Girard College, Miss McFate, librarian, Mrs. Cheney, assistant, Miss Erchinger, former librarian, and to all the staff, thanks must be expressed for their helpful kindness in my examination of this material.

## AMERICAN NOTES

(continued)

### WOODEN MASONRY, before 1859

Mr. John F. Fitch, III, of Colgate University sent us a description of an unusual type of construction found in central New York State. We have never before seen a house with such board walls but believe that the same kind of construction is not too uncommon for water tanks and vertical penstocks leading to waterwheels in regions where lumber is (or was) cheap.

#### A HOUSE OF LAMINATED WALLS

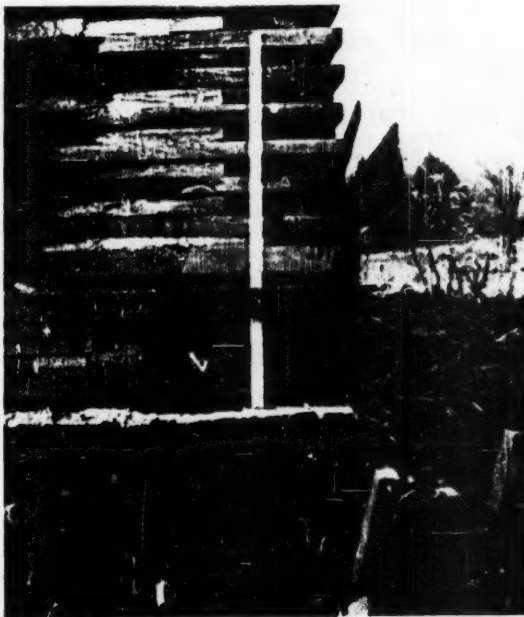
By JOHN F. FITCH, III  
*Colgate University*

On a little-used dirt road in the hills some three and a half miles east of Hamilton, New York, there stood until a few years ago the ruins of a wooden house of unusual construction. In 1947, when the accompanying photograph was taken, it was already in a state of almost complete dilapidation. Today the spot is marked only by a cellar-hole choked with the rotting fragments of badly decayed boards and planks. But in 1947 enough remained standing for one to identify the specific features of an uncommon use of wood in house construction, long since superseded by familiar methods of framing that make less prodigal use of wood. This writer has not encountered any published data on the technique of wood utilization followed in this house. However, such a technique may not be unique to this locality.

What is unusual about the house in question is that its exterior walls are solid, built up of boards laid flatwise one on top of another (See illustration). The boards measure a full inch by a full six inches in section. They are lapped at the corners so that a given board of one wall continues through to the face of the other wall and the next board above it abuts against a similar board in the other wall, going through to the corner. This successive alternation of through boards and abutting boards is clearly evident in the illustration. Where windows and doors occur, the boards are all made to line up vertically at each jamb, as though the opening had been cut out of the solid wall.

Another unusual feature of this construction is that, although all the boards are identical in section, alternate courses are offset by one-eighth to nearly one quarter of an inch, thereby automatically forming a key for plaster on both the outside and the inside faces of the wall. Such a key does not provide as positive an attachment as in the case of split laths (with which the interior plank partitions of this house were faced). But the presence of the original plaster in many of the horizontal channels made by the staggered alignment of the boards does argue a fairly tenacious grip, in spite of original shrinkage in the wood and alternate expansion and contraction due to seasonal changes in temperature.

The external plaster coat was doubtless employed partly to make the wall wind-proof (since such a multitude of horizontal joints would otherwise have provided many opportunities for the wind to penetrate the wall) and partly to protect the wooden wall from moisture (which would have caused not only rotting of the wood but also dimensional changes in the individual boards due to swelling when damp and shrinking when dry). However, additional protection, both to the plaster itself and to the wooden wall it coated, was given by clapboards. This outside surfacing with clapboards was probably for aesthetic purposes as well as for weatherproofing the walls, in order to bring the external appearance of the house into conformity with other houses of the time in this general vicinity.



Northeast corner of house, looking west, showing alternate lapping of the boards. (The white vertical is a folding carpenter's rule.)

The upland area in which this house once stood, although formerly one of small and unproductive farms interspersed with extensive woodlands, is now used only for pasturing cows, its open fields reverting to a natural and untended state. There are no longer any inhabited structures along this particular stretch of back road; even the cellar holes are now marked only by tangles of brambles. The road is impassable for some months during each year, and one ventures along it in a car only after a prolonged dry spell in the summertime. Yet formerly there were a number of buildings on this road, including a schoolhouse that stood only a few hundred feet away from the house under discussion. The reversion to a state of nature can be read in some of the maps of the area.

Although we do not know the date of construction of this curious building, we do know from a study of maps that it had been built and was occupied by 1858.

A local carpenter told the writer recently (February, 1956) that, while making alterations to two different houses right in the village of Hamilton, he had encountered the same kind of solid wood walls of boards laid flatwise. Whether this construction is a local phenomenon or not would be interesting to learn. At any rate, its lavish use of wood suggests that this technique was confined to that period and to those localities in which forested areas were being cleared.

## BOOKS

PAUL F. NORTON, *Editor*  
The Pennsylvania State University

Erwin R. Goodenough, *Jewish Symbols in the Greco-Roman Period*, Vols. 4-6; (New York: Pantheon Books, 1954-56), illus. \$22.50.

Since the first three volumes in this series were reviewed in these pages (October, 1954, p. 32), three more volumes have been published. Volume IV deals with the problem of method and with the specifically Jewish symbols of the menorah, Torah shrine, lulab and ethrog, shofar and incense shovel. Volumes V and VI begin the discussion of symbols borrowed from other religions, beginning with fish, bread and wine.

The principal architectural symbol that figures in this discussion is the Torah shrine, which was carved or painted on synagogues, tombs, lamps, etc., with or without the Torah scrolls represented inside it. Like the other shrines of antiquity, the Torah shrine seems not only to have sanctified that which was in it, but also to have been sacred in itself. Various forms were used: shrines with single or multiple openings, and with round or gabled tops. The widespread use of the shrine as a symbol of immortality is indicated by lists of its appearances in religious art and architecture from ancient to modern times. Further lists follow of the various shrine or façade forms as they are found on the monuments of Greco-Roman and later Judaism. The author then suggests probable symbolic values of the shrine and façade in Judaism.

A second architectural symbol appears in the Feast of the Tabernacles. Here are found references to the little huts used in the fields at the time of harvest.

The author concludes that persistence of certain pictorial devices on the sacred monuments of the Jews in all parts of the Greco-

Roman world indicates that these devices had for at least some of their users symbolic values beyond decoration alone. He cites much literary evidence from antiquity to suggest the nature of these values. These values in turn seem to reveal a mystical, as distinct from rabbinic, Judaism at that time, for which there is little written evidence beyond the writings of Philo Judaeus. As the weight of evidence for the use of these pictorial devices increases, the author insists that they be not lightly dismissed as only ornament or "mere" form.

A danger apparent in these volumes, particularly in connection with the architectural symbolism, is that in avoiding "mere" form, the author tends to escape the form altogether. For instance, Philo gives six meanings for the Feast of the Tabernacles, the third of which is the use of the huts for rest and protection after the labor and exposure of cultivating the crops. The author, while he admits that this meaning may have mystical content, finds it difficult to think in terms of physical, "practical," nature of the object used symbolically and prefers to dismiss Philo's contribution as "only whimsical" and "mere fancy." If the full richness of values in a symbol is to be appreciated, no avenue of inquiry can profitably be neglected or denied.

Illustrations supplement (and sometimes repeat) those in Volume III. As in the previous volumes, indexing and bibliographical references are generous.

MARIAN CARD DONNELLY

George H. Hamilton, *The Art and Architecture of Russia* (Baltimore: Penguin Books, 1954), 320 pp., 180 plates, \$8.50.

George H. Hamilton's book is an extensive survey of Russian art from the Christianization of Russia in 988 to the fall of the Empire in 1917. This is so in spite of certain limitations which the author sets himself by confining the geographical area covered to European Russia, and by selecting only the most important manifestations of art for consideration. Their correct choice and their interpretation within the indicated limits is a very difficult and complex task. The author displays a positive approach to and a thorough knowledge of Russian art. Yet, the book raises many controversial problems. One of them is that of so-called "influences." Hamilton repeatedly mentions the influences exerted on Russian art from other countries, or by different artistic styles. Sometimes he bases his considerations on concrete examples, but often merely on suppositions. This is acceptable in cases where there exists an indisputable phenomenon, one influenced as a totality (for instance, a plan as a whole, meaning its constitutional nature). But in cases where the influence extends only to accidental, outward features, details, or analogies in which no influence is involved, or where it is only a possibility, scientific analysis is replaced by a non-critical assumption. The basic meaning of the word "influence" is not by nature restrictive, but expansive. In order justifiably to claim that an object of art is "influenced," formalistic-factual evidence must be used; otherwise, this claim remains an unfounded assertion. If the criterion of where originality ends and where imitation of a given art form begins has not been established, the use of the word "influence" leads to pseudo-scientific and superficial conclusions.

Hamilton's work consists of five parts. The first of these, except a short historical outline of Kievan Rus, deals with the architecture of Kiev (990-1240), of Novgorod and Pskov (990-1500), and also of Vladimir-Suzdal (1100-1240). The basic question about the genesis of Russian church architecture, and of the degree of originality in its first manifestation occurs in the chapter on Kievan architecture, particularly in the analysis of the remains of the Desyatinnaya Church (founded in 989) in Kiev. This analysis is especially important because Russian history shows that the first solutions of architectural problems of the Kievan period became the source for an extremely long building tradition. The author, discussing the question of whether the Desyatinnaya Church in the first stage of its construction was a basilica or a vaulted five-domed cruciform church believes that this question remains unsolved. It may be assumed that this question is provoked by the controversial article by K. J. Conant, "Novgorod, Constantinople and Kiev in Old

Russian Church Architecture" (1944). He bases his considerations on an analysis of the foundation of the church and on some historical conjectures, such as the presence of basilicas during the same period in Bulgaria and Khersonesus. Though Mr. Hamilton avoids advancing a definite opinion, he tends to believe that the Desyatinnaya Church was a cruciform, rather than a basilican structure. On the basis of the latest works by Russian scholars (N. Brunov, M. Karger) it may be assumed, that the Desyatinnaya Church actually was a three-apsed cruciform domed building. N. Brunov definitely states that the last excavations prove that the church was cruciform "with six interior piers, the disposition of which corresponded to the distribution of shallow pilasters on the exterior walls, and to the three apses of the altar." In making his conjectural deduction Hamilton used the plan of the Desyatinnaya Church by Mil'yeyev and reproduces it in his book. This plan is not sufficiently precise and even creates the impression that the Desyatinnaya Church transept was of basilican type. The plan of the foundation published later by Brunov's *History of Russian Architecture* (1951), shows the presence of a transept which was connected directly to the apses. Other details of this plan also support Brunov's idea that the church was cruciform.

More convincing is the reconstruction of the plan of the first Desyatinnaya Church which was recently published by Olexa Powstenko in *The Cathedral of St. Sophia in Kiev* (1954). Particularly acceptable is Powstenko's conclusion that "the necessity of lighting the central part of the Tithe (Desyatinnaya) Church led to the construction of at least seven cupolas."

Thus at the dawn of the formation of Russian architecture appears a local solution through alteration of the Byzantine quincunx. This new type, developed then and later by Russian builders, crystallizes into an independent architectonic form. The Cathedral of the Transfiguration (founded 1017) in Chernigov with its unsophisticated and compact plan of a six-apsed cruciform domed church is an example of this.

Apart from the structural solution of a plan and of the whole organism of a church, it is necessary to consider the liturgic-symbolic effect on it. The basilica, with its separation into three parts reflects the similar division of the Christian community into the Katechumens, the fully empowered members, and the priesthood. The basilica in its subdivisions expresses symbolically the progression of the procession of the community to the altar. The cruciform domed church, especially the Russian variety, expresses the idea of the concentration of the religious community as a unit. The progressive movement forward along the longitudinal axis in the basilica is replaced in the cruciform domed church by the spiritual elevation of the community symbolized by the vertical axis. This peculiarity partly found its initial expression in the Desyatinnaya Church and later was more clearly formulated in St. Sophia in Kiev. The liturgic-symbolic tendency, which later was fully developed in the creation on Russian soil of the cubic church, is reflected in the proportions of church plans. The approximate measurements are as follows: St. Sophia in Constantinople, length (without the atrium) 80 m., breadth 70 m.; St. Sophia in Kiev, length 37½ m., breadth 45 m. The ratio of length to breadth of both churches is approximately unity. In general it can be said that in the transition from basilican to cruciform type the longitudinal axis is brought more into equilibrium with the transverse axis. Thus Constantinople represents a compromise form and Kiev a more complete realization of the development.

To the architecture of Pskov the author allots only one page, asserting that Pskov "failed to achieve as independent a style as did Novgorod." But at the same time he speaks about the main discovery of Pskov's architects, who found that they could construct the dome without the support of pendentives by applying corbeled arches at the corners of the intersection of the nave and transept, and by placing the drum upon them. The opinion that Pskov architecture did not reach as independent a style as Novgorod is not a new one. It was expressed by Suslov more than fifty years ago. It is obsolete and has been refuted. Aside from basic changes in the volume of the church, there are marked peculiarities of the architectural school of Pskov in the bell towers and porches. About the bell

towers Mr. Hamilton remarks only that "with simple directness of primitive art, they contribute to the picturesque mass of the church." Yet, the significance of bell towers was not only decorative, but sometimes functional. As concerns their aesthetic nature, they not only far surpass "simple directness of primitive art," but manifest a mature and logically precise form apart from or in relation to the church. The porches, revealing one of the most characteristic traits of Pskov architecture, later played an exceptionally important role in the development of the style of monasteries, churches and palaces in Moscow.

In Chapter 14 concerning wooden religious architecture, which represents a summary sketch of the evolution of wooden churches and their main types, the question about "possible influences from abroad" is again brought up. Simultaneously Mr. Hamilton says that this building tradition is of "immemorial antiquity." He also refers to the possibility that European Gothic may have influenced the "greater verticality" of Russian wooden architecture. This is unlikely. The tendency toward pyramidal composition appears in Russia even prior to the appearance of Gothic in Europe. The German Gothic had its beginnings in the thirties of the thirteenth century, and the Hanseatic Union, to which Mr. Hamilton refers, was not organized until this period. This Mr. Hamilton recognizes in the silhouette of St. Sophia in Kiev (1037). The wooden church of St. Sophia in Novgorod which was built even earlier (989) had thirteen tops (*vierkhi*). Mr. Hamilton correctly agrees with K. J. Conant's conjectural restoration of the wooden St. Sophia "with octagon and tent roof," but he questions the possibility of Caucasian origin for these forms at this date. The *vierkhi* about which Conant speaks without comprehending their real shape, stimulated not only the pyramidal composition and verticality of wooden churches, but later crystallized the type of tent churches. *Vierkhi* are among the basic elements of the national stylistic forms of Russian wooden churches. In reference to the *vierkhi* of the wooden St. Sophia in Novgorod, Mr. Hamilton says that "whether these were roofs, gables, spires, or, as would seem quite unlikely, wooden cupolas, is not clear." In fact, it would be more logical to assume that they were not cupolas, but truncated pyramids. The *vierkhi* are an architectural form and concept which have a long history. Their architectural concept is distinctly expressed in the epic song "Lay of the Host of Igor" (1185). Prince Sviatoslav, in the words of the poet, says, "In my *terem* [a kind of tower on a wooden building] with gilded top the boards are without ridgepole." The recognition of the absence of a ridgepole as an architectural achievement and apposition of it to the gilded top (*vierkhi*) is an obvious expression of the architectonic progress of that epoch. A much earlier testimony is given by the Arabic geographer of the tenth century, Ibn Ruste. While speaking about constructions by Eastern Slavs, he noticed that, "The cold in their country is so intense that all of them dig for themselves a kind of cellar in the ground, to which they attach a wooden peaked roof." Besides written evidence there exists also material evidence. Recent excavations of settlements of the fourth, fifth, and later centuries in the forest belt of Eastern Europe have revealed fully developed types of inhabitable log constructions, and more important, the structural shape of the wooden frames of wells. Long before the appearance of the first Russian Christian churches these wells had a definite shape. Their wooden log frame was wider at the base than at the top. To this day this extremely important fact has not been taken into consideration by the historians of Russian architecture. However, the truncated pyramid shape of the well frames is the very embryo of the "tent covering" and its more developed form in the Russian wooden and stone architecture up to and including the sixteenth century. Thus was formulated a national architectural tradition which through competing with the Byzantine tradition, became one of the basic elements of all Russian architecture till the Empire Period.

In his introduction to the chapter on icon painting Mr. Hamilton presents general historical data about the collection and study of Russian icons. This he supplements with remarks about iconography and the techniques of icon painting. The understanding of the artistic qualities of icon painting and its historical analysis present, in the author's words, "almost insuperable difficulties for the West-



ern observer." This is caused by the aesthetic nature of the Russian icon and the different development of Western European painting through the years. Hamilton simplifies this task by using the works of eminent Russian scholars (N. Likhachev, N. Kondakov, I. Grabar, A. Anisimov, M. Alpatov) and other less original essays of non-Russians as sources, offering them to the reader as supporting material for the formulation of judgements about the original nature of this type of art.

Part III, excepting the analysis of the architecture of Moscow from 1400 to 1600, contains data about Russian religious architecture of the seventeenth century. Mr. Hamilton, like many, refers to this period of religious architecture as Moscow Baroque. It is doubtful whether such diverse stylistic expressions can be placed under such a heading, for instance, the Church of the Nativity of the Virgin in Putinki (1649-52), which completes the tradition of Russian wooden architecture as applied to stone construction (tent churches), and the Church of the Intercession of the Virgin in Fili (1693), built by the boyar Leo Naryshkin, whom Mr. Hamilton erroneously calls "Prince." It is true that in the latter can be detected the penetration of elements of Western Baroque into Russian architecture developing a kind of compromise between national and foreign forms.

Part IV concisely outlines the architecture, sculpture and painting of the Imperial Period. But it is difficult to agree with the author that the Sukharev Tower (Moscow, 1692-1771), destroyed by the Soviet Government, was of little interest. It was a very remarkable building whose design, based on national tradition, affected later urban construction.

That the last part of the book contains only two architectural plans is disproportionate. The plan of the New Kremlin Palace by Bazhenov (1737-99) was never carried out, and the plan of the Tauride Palace by Ivan Starov (1743-1808), though carried out, is reproduced in the book only in part, so that the grandeur of the intention of Starov cannot be properly judged.

Part V, the last, consists of chapters in Eighteenth Century Painting and Sculpture, Romanticism, The Ideological Realism, The Slavic Revival and *Mir Iskusstva*. In his survey of the sculpture of the eighteenth and nineteenth centuries Mr. Hamilton confines himself to brief remarks. There are a number of omissions. Such masters as I. Vitali (1794-1855), who represented the classic tradition, Anton Ivanov (1815-1848), and N. S. Pimenov, Jr., (1812-1864) with his collaborator A. Logansky (1812-1855) are not mentioned at all. The role of the latter two, as instigators of the emerging growing interest in national themes is considerable and their creations were noticed by Pushkin in his verses. There is also a complete lack of data about modern Russian sculptors like Golubkina, Konenkov and Merkurov. A disciple of the famous Metzner, Merkurov enjoyed considerable success after the revolution of 1917 and had been appreciated by art critics before it. The penetrating psychological portraits by Golubkina (for example: poet Andrey Bely) and the epic legendary statues of Konenkov, in the creation of which he was guided partly by the plastic tradition of Russian folk-carved toys, cannot be passed over. Nothing is said about F. Alexeyev (1753-1824) whose work, though somewhat reminiscent of Antonio Canaletto, played a definite role in the formation of Russian urban landscape painting. A. K. Savrasov (1830-1897), whose picture "The Rooks Have Come" (1870-71) opened a new epoch in Russian lyrical landscape painting, is also unjustifiably ignored. The same can be said about V. Tropinin (1776-1857). This sincere and unsophisticated artist represents the start of the modern realistic approach toward individuality in the art of portrait painting. He definitely broke with the tradition expressed in the usual aristocratic Baroque portrait. The work of this painter had a direct impact upon the evolution of Russian portrait art during the second half of the nineteenth century.

The designation *Mir Iskusstva* (World of Art), taken from the name of an art organization, was applied by Mr. Hamilton to Russian art at the turn of the nineteenth century and two decades of the twentieth century. This is unfortunate. The designation, though widely used in Russian art literature, is too superficial and does not characterize the basic traits of a strong cultural trend which might

be more appropriately called individualistic aestheticism. This trend was also reflected in Russian literature, theater, etc.

B. Kustodiev (1878-1927), one of the most penetrating interpreters of the way of life of the Russian merchants, and of the features of provincial towns and landscape, whose pictorial achievements are of brilliant quality, is also an artist of historical significance. He should have been included. At the same time Mr. Hamilton found place in his work to make some remarks about M. Chagall and Naum Gabo (Pevsner). The first by his aesthetic ideals and by his activities belongs far more to international subjective expressionism than to Russian national art. The second, though propagandized by Herbert Read after departing from Russia in the twenties, did not leave any noticeable trace in Russian painting.

In his historical deductions Mr. Hamilton made two unfortunate mistakes. First, he confused Khersonesus (Korsun), the Greek colony, which was located in the Crimea and to which Prince Vladimir conducted a campaign in 988, with the city Kherson. Kherson is located near the mouth of the Dnieper, and was founded only in 1788. The city of Tmutarakan, where the prince Mstislav of Chernigov had built a cathedral at the beginning of the eleventh century, was located on the peninsula of Taman, on the western part of the Caucasian coast, and not at the mouth of the River Don, as Hamilton states. Russia took possession of the mouth of the Don only in 1774.

*The Art and Architecture of Russia* is a review, a kind of re-examination of a very large quantity of research by known Russian and Western writers. However, it should be pointed out that Mr. Hamilton's approach to the subject matter is positive and constructive. If the author could have visited Russia personally and studied its art first hand, his sympathy with Russian artistic culture would be deeper, and his critical appreciation more independent. As a basic textbook for studying Russian art, the book by Mr. Hamilton is undoubtedly very valuable.

NICHOLAS A. ELENEFF

Carl Ludwig Franck, *Die Barockvillen in Frascati* (Munich: Deutscher Kunstverlag, 1956), 146 pp., 143 illus., DM 19.

Carl Ludwig Franck's study on the Baroque villas in Frascati compares with Steen Eiler Rasmussen's *Towns and Buildings* as one of those publications in the field of the history of architecture which could only have been written by a scholar who is also an architect. This very combination makes it possible for the author to clarify his research with his own measured drawings and perspectives. In the sixteenth and seventeenth centuries eleven villas were built in and near ancient Tusculum, already famous as the place favored in Roman antiquity for escape from urban life. The comprehensive study is of outstanding importance not only for the discussion of architectural values, for architects like Longhi, Maderna, Giacomo della Porta, and Carlo Fontana were employed here, but also for the analysis of the relationship between man-made and God-made shapes of aesthetic significance. It is this aspect which the author emphasizes and studies with an insight and understanding uncommon among German historical studies of recent years, and paralleled only by Otto Helmut Foerster's basic work on Bramante (Munich, 1956).

The research is based on the integration of the architecture of each palace, and its topographical and landscape setting. This relationship is characterized by the development and variation of the "canon," the classical configuration of palace, parterre, and bosquet. It is these elements which create the common denominator, the "baroque tonality," as it is called by Carl Ludwig Franck, using Luigi Damis's term (*Il Girardino Italiano*, Milan, 1935). This baroque tonality appears different in each instance, but the determining factors are always the potential vistas into the Campagna, the adaptation to the topographical situation with its ever-varying levels, and the development of axes and entrances. These factors suggested the orientation, the system of dominating, coordinate, or subordinate axes, and the distinctions between north and south façades in order to favor the sunlight, etc. The polarity of mountains and plain, the sequence of terraces, cascades, fountains and bos-



quats, the subtly articulated *girardino pensile* (garden for meditation), are elements of landscaping closely connected with, and not less decisive than, the planned spatial interconnection of the palace's interiors. The villa appears as a translation of the surrounding landscape into rhythmic architectural terms.

Cascades, fountains, and aquatic theaters play a decisive part, although none of the villas in Frascati can be compared, especially in the use of water, to the Villa d'Este at Tivoli. Frascati was not favored by the abundance of water so characteristic of the landscaping at the Villa d'Este. On the other hand, in contrast to the isolated location of the Villa d'Este, the combination of eleven villas and their dispersion over the slopes of two hills and one small valley between create an over all impression of a whole region in which architecture and natural surroundings play an equal part and where neither of the elements is separate from the other.

Whether the author deals with one of the more famous villas like Aldobrandini, Mondragone, or Torlonia, or with some lesser known ones, the approach is always that of the architect in the process of planning and working. The architect's ideas are bound, of course, not only by the above mentioned conditions, but also by the special wishes of the owners, members of a spoiled Roman aristocracy—baroque in the true sense of the word. The author has studied the process of architectural creation for each villa, and has inserted perspectives, measured drawings, reproductions of old copper engravings, and photographs. Lastly, the scholarly historical text combines with the above to achieve a persuasive presentation of the whole. The purpose of architectural history as the true basis for understanding the totality of a stylistic period at a given place has been fulfilled admirably by Dr. Franck.

PAUL ZUCKER  
Cooper Union

T. H. B. Burrough, *South German Baroque* (London: Tiranti, 1956), 40 pp., 54 photos, 20 figs., 18s.

Subtitled "an introduction based on a group of ten churches," this small book surveys a century of South Bavarian and South Swabian church building from Obermarchtal (begun 1686) to Wiblingen (begun 1772). The examples selected are major ones, and they illustrate well the development from belated Renaissance forms into Baroque and Rococo and the final reaction in favor of the neo-classical trend of Louis XVI's France. Except for the Asam brothers, "whose style must form the subject of a separate study," all the leading architects and decorators of the area in the chosen time-span worked on one or more of these ten churches: Obermarchtal, Weingarten, Ettal, Steinhausen, Wies, Birnau, Zwiefalten, Ottheim, Rott-am-Inn, and Wiblingen.

After acknowledging his debt to the leading German scholars in the field of German Baroque architecture, the author modestly professes only a desire to introduce it to a public unable to read German, and, one must add, unversed in the history of architecture. A twelve-page preliminary section starting with the Parthenon just manages to arrive at eighteenth-century Germany. It conveys standard ideas of what Baroque is (except to confuse the issue by calling the Erechtheum Baroque); but nowhere is the Rococo considered. Thus it misses entirely what I would consider the main point, if I am not mistaken in believing that the greatest contribution of these designers was a creative synthesis of Baroque and Rococo elements into a style, different from either, which I think might properly be called Barococo.

Mr. Burrough, who is a Fellow of the Royal Institute of British Architects, appraises this architecture with a professional eye. His text plans are drawn to the same scale, so that the reader may readily grasp the size of the building under consideration. His attractive sketches of exteriors are likewise in the vein of skilled architectural rendering. But he bears a heavy, and nowadays very British, burden—the classical rule-book. One feels that Mr. Burrough is a little apologetic for his enthusiasm about German Baroque, and that he is impelled to make it respectable. Thus his prescription for improving on the lovely Rococo interior of Birnau by cutting through its undulating gallery with a giant vertical order

would doubtless bring Birnau into line with St. Paul's, but only at a frightful artistic cost.

Speaking of cost, I am tempted to call this book the poor man's Lieb, except that Dr. Lieb's magisterial and marvellously illustrated work on these same churches (minus Wiblingen, plus nine others) is already a bargain at 35 West German marks. Mr. Burrough affords a few original and interesting comparisons, such as those between the perspective altar-grille at Weingarten and the lower part of the facade of the Scuola di San Marco, and between Ettal and the *parti* of Santa Maria della Salute in Venice. The value of the latter comparison, however, is somewhat impaired by the statement that the Salute was built nearly 150 years earlier. You cannot get 150 years after 1631-56 whether you take the date of the new church at Ettal (1709 and later) or the rebuilding after the fire of 1744, particularly when one of the two architects listed, Enrico Zucchi, died in 1721.

Were this merely a popular picture-book with agreeable running commentary, such carping criticism would be out of place. The main section of the book, however, is rather closely documented, and there is a four-page alphabetical list of artists and craftsmen which clearly has scholarly pretensions. Thus it seems all too appropriate to point out that the book contains a staggering number of errors of fact. These run all the way from a misspelling of Obermarchtal on the very title page and two identical misspellings of so salient a masterwork as Vierzehenheiligen, to a confusion between Landschut and Landsberg (elsewhere misrendered as Landsburg) as one of the scenes of activity of Dominikus Zimmermann (page 40), who was not only a leading citizen of Landsberg but produced many important works there. Furthermore, Steingaden is included in this same architect's list, on what basis (other than his design of Die Wies for the abbot of Steingaden) I am unable to discover in any sources known to me. With such errors in mind one is inclined to be less than charitable to find Maria Modingen, an early masterpiece of the same Zimmermann, rendered as "Medingen" (page 24); Schäftlarn written without a "c" (page 40); and Cimabue painting "nearly a century earlier" than Giotto (page 11) at what appears higher on the same page as the "Areno" at Padua.

In the introduction, conventional reference is made to the music of Bach and Mozart as being perfectly mirrored by this architecture. There is some truth to the contention, but it needs considerable qualification because Bach was North German and Lutheran whereas this architecture was South German and profoundly Catholic, while Mozart was born three years after the completion of Cavallieri's Residenztheater in Munich, which is often cited (though not by Mr. Burrough) as the perfect mirror of his music.

The book makes no mention whatever of the Thirty Years' War, ending in 1648, which left Germany in a relatively much worse state than after World War II. Yet Mr. Burrough asks us to consider (page 15) "what had the Bavarian architect to offer his most reverend patron in the middle of the seventeenth century." The answer is, almost nothing whatever, even if such a patron had existed. This is why Obermarchtal, begun thirty-six years later, was still so thoroughly dependent on Italian forms long since out of vogue in the land of their origin, and why designers and artisans had to be imported so frequently from Italy and Switzerland. After Germany recovered, everything happened at once: Roman Baroque, Viennese-Roman style, and French Rococo. The book gives no inkling of the drama of pent-up forces, held in check by political and economic chaos, finding sudden release.

S. LANE FAISON, JR.  
Williams College

Henry Lyttleton Savage (ed.), *Nassau Hall* (Princeton: Princeton University, 1956), 188 pp., 16 plates, 3 plans, \$3.75.

As a part of the official commemoration of the bicentenary of Nassau Hall, a committee of the faculty, administration and trustees of Princeton University has sponsored the publication of a modest but unusually attractive volume dealing with the history of this important building.

Under the editorship of Henry Savage, archivist of the Library of Princeton University, a number of scholars have been invited to

Books 31

BEST COPY AVAILABLE

contribute essays dealing with their special fields of interest: the original design of Nassau Hall and that of the nearby President's house, both by the master-builder Robert Smith (c. 1722-1777), are discussed by Paul Norton in Chapter I; the rebuilding by Benjamin Henry Latrobe (1764-1820) after the fire of 1802 is the subject of the second chapter, also by Norton; Chapter III by Robert C. Smith deals with the additions and modifications (notably the Italianate towers) made by John Notman (1810-1865) after the fire of 1855; in Chapter IV Jar Weller, Honorary Curator of Civil War Ordinance at West Point, discusses continental artillery and the Battle of Princeton in which Nassau Hall figured; "Historic Events in Nassau Hall" form the subject of Chapter V by T. J. Wertensbaker; for Chapter VI Nathaniel Burt has contributed a lively description of student life; the final chapter by the editor is a useful discussion, with appropriate lists, of the representations of Nassau Hall in old prints.

The result of this collaborative effort would seem to embody most of the advantages, and at least some of the disadvantages, which joint authorship usually entails. While clearly several specialists are able to contribute a greater variety of knowledge and experience than any one author could reasonably be expected to have at his command, it usually takes rigorous editing to make of their varied contributions a unified and consistent book. Apparently the decision in this case was to permit the six chapters to stand as six essentially separate essays whose principal connection with each other is the inclusion of the words "Nassau Hall" in each of their titles. Differences in style and organization, while distracting to some readers, may perhaps by others be overlooked; less acceptable in so brief a volume is the repetition of fundamentally the same material. For example, the relationship of Nassau Hall to the buildings of other American colleges is mentioned (but never really analyzed) by three different authors (pp. 37, 44, 157), each of whom cites essentially the same examples; or, to note only one other instance, however desirable a discussion of Notman's predecessors may have been when Smith's article appeared first in the *Princeton University Library Chronicle*, its retention seems quite unnecessary in the light of the first two chapters of the present volume which deal extensively with the same material.

Anyone who undertakes to write on an architectural subject is soon confronted with the problem of deciding to what kind of reader his remarks are to be addressed. It need hardly be pointed out in this connection that *Nassau Hall* is not intended primarily for the architectural historian. But if not for the specialist, for whom then? Perhaps in the belief that a book on Nassau Hall should confine itself to the subject under discussion, Professor Norton in the first two chapters makes few concessions to his readers on the score of architectural history. Such questions as the character and origins of early and late Georgian architecture in America or the place of Nassau Hall in the careers of Robert Smith and Latrobe (the reviewer could not find even the dates of their births and deaths) are very largely excluded. Professor Smith, on the other hand, takes little for granted, and the reader who has no prejudice against footnotes will find in Chapter III, not only an interesting analysis of Notman's contributions to the design of Nassau Hall, but also a fairly comprehensive summary of the career of this important and little-known architect.

If any of the foregoing comments seem somewhat critical, they are not intended to suggest that the six authors have not done their work carefully and well, or that their several essays are not welcome—even important—contributions to American history. It is especially because of the excellence of the individual chapters that it is to be regretted that some kind of introduction or summary was not included which would serve to hold together at least the architectural portions of the book and at the same time make clear the significant place which Nassau Hall and its designers hold in the history of American architecture—points which are either not developed in the present text or are in danger of being lost amid the many documents and minor facts with which the scholar must perforce deal.

GEORGE B. TATUM  
University of Pennsylvania

## BOOKS RECEIVED

(Mention of a book here does not preclude its subsequent review.)

Samuel and Narcissa Chamberlain, *Southern Interiors of Charleston, South Carolina* (New York: Hastings House, 1956). \$15.00.

Henry Chandless Forman, *Tidewater Maryland Architecture and Gardens* (New York: Architectural Book Pub. Corp., 1957). \$10.00.

Maxwell Fry and Jane Drew, *Tropical Architecture in the Humid Zone* (New York: Reinhold Pub. Corp., 1956). \$10.00.

Victor W. von Hagen, *Realm of the Incas* (New York: Mentor, 1957). \$0.50.

W. R. Lethaby, *Form in Civilization*, second edition, (London: Oxford University Press, 1957). \$2.75.

This book contains a series of twenty-two essays, mainly architectural, which appeared first in various journals, were then collected under the present title and published in 1922, and are now published in a second edition. However, no changes have been made in Lethaby's text, but a few notes have been added, as well as a forward by Lewis Mumford. Many of the problems of architecture as the servant of society discussed by Lethaby early in the century are still with us today, so that town-planner and historian alike may still read the essays with profit.

Henrique E. Mindlin, *Modern Architecture in Brazil* (New York: Reinhold Pub., 1956). \$12.50.

James Philip Noffsinger, *The Influence of the Ecole des Beaux-Arts on the Architects of the United States* (D. Arch. thesis) (Washington: The Catholic University of America Press, 1955). \$1.50.

Erwin Walter Palm, *Los Monumentos Arquitectonicos de la Espanola*, 2 vols. (Dominican Republic: pub. by University of Santo Domingo, 1956).

H. F. Withey and E. R. Withey, *Biographical Dictionary of American Architects* (deceased), (Los Angeles: New Age Pub. Co., 1956). \$15.00.

Bunji Kobayashi, Gaijiro Fujishima, Seiji Horiuchi, and Shinjiro Kirishiki, *History of Western Architecture (Seiyō Kenchikushi)*, Number 5 in *Encyclopedia of Architecture (Kenchikugakentaikei)* (Tokyo: Shokokusha, 1956). 1060 Yen.

This volume which is the fifth in a series of forty covers the history of architecture from its earliest beginnings in Egypt and Mesopotamia to the end of the nineteenth century in Europe. Each of the four authors, from several universities in Tokyo, considers one of the main divisions of the work. Professor Kobayashi deals with the pre-classical period, Professor Fujishima writes on Greece and Rome, Mr. Horiuchi on the Christian Middle Ages and Islamic architecture, and Mr. Kirishiki on the Renaissance, Baroque, and revival styles. Professor Kobayashi who teaches at Nihon University is a member of the Society of Architectural Historians. He spent a year in the United States in 1952-53 and has published a volume on American Architecture illustrated with his own photographs.

M. D. ROSS

## SAH NEWS

### THE AUGUST TOUR

The annual August Field Trip of the Society will be held on the weekend of August 17-18 in and around Bethlehem, Pa. Daniel M. C. Hopping is in charge. Notices will be sent to the membership.

